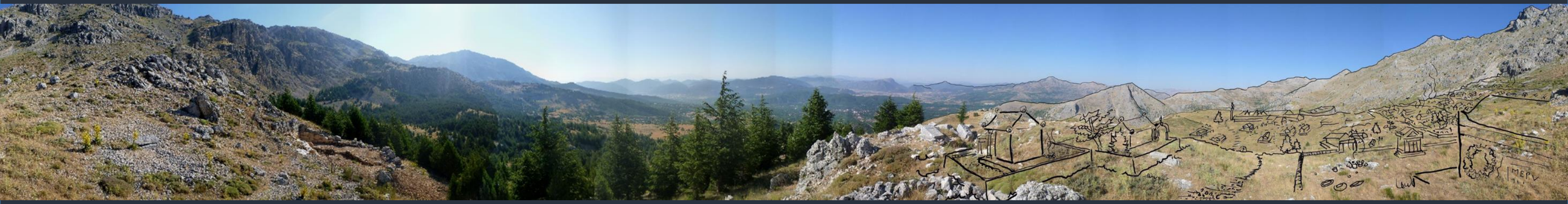
KU LEUVEN

FACULTY OF ARTS
DEPARTEMENT ARCHAEOLOGY, ART HISTORY AND MUSICOLOGY
RESEARCH GROUP ARCHAEOLOGY

THE 'EASTERN SUBURBIUM' *PROASTEION* OF SAGALASSOS

A CHRONOLOGICAL, FUNCTIONAL AND SOCIO-ECONOMIC STUDY OF AN ALMOST UNCHARTED ANCIENT URBAN PHENOMENON



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Proefschrift voorgedragen
tot het verkrijgen van de graad
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JOHAN CLAEYS

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Front & back cover: panoramic view over the Eastern Suburbium (front) and Elmalı Pınar (back) by Özge Mutlu & Johan Claeys

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ABSTRACT

English abstract

Sagalassos is an ancient Pisidian city, located on a south-facing mountain slope of the Western Taurus mountains in Southwest Anatolia. The city has been inhabited from Classical to Mid Byzantine times, with Late Hellenistic to Early Byzantine times (2nd century BC until the 7th century AD) representing its most intensive period of occupation. Sagalassos has been the subject of ongoing archaeology-driven research since 1986, first as part of the Pisidia Survey Project and from 1989 onwards as subject of the Sagalassos Archaeological Research Project (SARP). Professor Marc Waelkens directed the project between 1989 and 2013; professor Jeroen Poblome from 2014 onwards.

The past decades have provided a treasure of information on the history and layout of Sagalassos and its territory, among which the so-called Potters' Quarter (now referred to as Eastern Suburbium) northeast of the town. In 2010, professors Jeroen Poblome and Patrick Degryse jointly devised a new research project on the Eastern Suburbium of Sagalassos, a topographically, historically and functionally distinctive suburban development in the immediate periphery of the town of Sagalassos. They envisaged an interdisciplinary research programme that would allow us to map the origins of this 'peri-urban phenomenon' and its emerging and decreasing functionalities, to unravel its developing social complexity and to approach the general study area of ancient urbanism from a 'suburban point of view'. Since the study area also harboured the main artisanal quarter of the city, it was expected to hold potential for the documentation of the area's importance within the regional economy.

The main modules for this thesis consisted of the various, mostly unpublished, excavation and survey data from previous campaigns, augmented with new research data (2011-2014) collected within the area aimed at answering specific (open) research questions.

Because of its location on a high plateau northeast of the city, the Eastern Suburbium is an area that is topographically segregated from both the rest of the town as well as from its surrounding territory. The suburban setting and topographical characteristics of the area resulted into the development of a suburban texture that is clearly distinguishable in its historical development, layout and attested functionalities. A quarter century of research had yielded a lot of information on this site, but a thorough study of its many facets was still lacking. This project therefore aimed at gathering all available data, filling the remaining knowledge gaps with additional field work, identifying the nature of this suburban 'phenomenon' and presenting the data of all previous, current and ongoing research in an integrated, exhaustive and accessible manner.

Even though the expertise on the Eastern Suburbium was already considerable due to the varied results from previous campaigns, the first major task consisted of combining all available, but fragmented, old and new data into a comprehensive history of the study area. This approach also led to a reassessment and ultimately to a reinterpretation of our knowledge on all historical and functional aspects of the various sites throughout the Eastern Suburbium. From Hellenistic times onwards the area overlaps to a large extent with the Eastern Necropolis, but the burial practices are mainly concentrated along the steeper, rocky slopes surrounding the area. The central part of the area would develop, from Augustan times onwards, into the main artisanal quarter of the city. Until now only pottery production activities have been conclusively attested within the Eastern Suburbium, but the presence of other crafts (glass working, metallurgy, textile dying, *etc.*) cannot be excluded. Specific areas within and in the immediate surroundings of the study area were also used for clay quarrying (the Central Depression), for stone quarrying (the largest eastern quarry is located in the southeast of the Eastern

Suburbium) and sarcophagus carving (immediately south of the Central Depression). Finally, the southwestern quarter of the area was taken up between *c.* 50 AD and *c.* 350 AD by a series of (semi-)public structures and complexes. Communal dining has been attested at the PQ 2 site, which is tentatively identified as a *schola*, and we hypothesise the identification of the site G complex as a multi-purpose suburban *campus*, where for example cattle markets and festivals could be organised.

Even though the area covers a geographically distinguishable terrain, the area forms part of the *continentia aedificia* (the continuously built-up sprawl outside the city walls). In a more broad sense we can refer to the study region as a *proasteion* (mainly used in the Greek East) or *suburbium* (mainly used in the Latin West). The problem with these terms is that both also refer to the wider area surrounding an ancient city, including the part of the countryside defined by (elite) *villae* and suburban farms. This study further recognises a complex framework of different interacting 'levels of urbanisation', ranging from the monumental city centre to the desolate mountain slopes, with many different, though partially transcendental, levels in between. While the boundaries between these zones were never definite, they appear to increasingly dissolve from Late Roman times onwards. The 7th century AD earthquake would signify a breaking point for the urban texture in the centre of the city, but it appears that the Eastern Suburbium was already to a large extent abandoned in the preceding century. The demise of the quarter was the end station of a longer process, which included, consecutively, the gradual accumulation of waste, the abandonment of the (semi-)public southwestern quarter, the usurpation of older burial monuments, the dismantlement of derelict structures, the return of agricultural and pastoral activities in the area and the removal of the potting activities to a yet unknown location in the countryside. The final major intervention within the *proasteion* was the erection of an Early Byzantine church on the top of the eastern ridge, but also this building appears to have been emptied before it eventually collapsed in the 7th century AD.

The history of this quarter could be reconstructed in some detail from Classical/Hellenistic times to the so-called 'Dark Ages', thus covering a period of more than 1,000 years. This study will hopefully serve as the onset for future research, as some (socio-economic) aspects deserve a more thorough approach.

Öz (Turkish abstract)

Sagalassos, Güneybatı Anadolu'da Batı Toros Dağları'nın eteklerinde konumlanmış bir Pisidya kentidir. En yoğun yerleşimini Geç Helenistik dönemden Erken Bizans dönemine (MÖ 2. yy.'dan MS 7. yy'a) kadar yaşamış olan bu kent, Klasik dönemden Orta Bizans dönemine kadar iskân edilmiştir. Sagalassos antik kenti, 1986 yılından itibaren, önce Pisidya Yüzey Araştırması projesi; 1989'dan itibaren ise Sagalassos Arkeolojik Araştırma Projesi ile(SARP) arkeolojik araştırmalara tâbi olmuştur. 1989-2013 yılları arasında Profesör Mark Waelkens tarafından yürütülmüş olan Sagalassos Arkeolojik Araştırma Projesi, 2013'ten itibaren Profesör Jeroen Poblome başkanlığında devam etmektedir.

Bugüne kadar yapılan araştırmalar Sagalassos'un tarihi; kent ve çevre arazisinin yerleşimi hakkında zengin bir bilgi birikimi sağlamıştır. Sagalassos'un kuzeydoğusunda, daha önceleri 'Çömlekçiler Mahallesi' olarak adlandırılan, şimdi ise 'Doğu Dış Mahalle' olarak tanımlanan bölge de bu arazinin bir parçasıdır. 2010 yılında Profesör Jeroen Poblome ve Profesör Patrick Degryse, Sagalassos'un kentsel dokusunun hemen dışında gelişmiş, topoğrafik, tarihsel ve işlevsel olarak farklılık gösteren Doğu Dış Mahalle üzerine ortak bir araştırma projesi geliştirmişlerdir. Tasarladıkları disiplinler arası araştırma programı, buradaki 'kent çeperi olgusu'nun kökeni, oluşumu ve giderek azalan işlevini haritalandırıp, gelişen karmaşık sosyal yapısını çözümlemenin yanında antik dönem şehircilik araştırmalarına kentin dış çeperi açısından bakmayı da sağlamıştır. Bunlara ek olarak, tanımlanan çalışma alanı kentte zanaat faaliyetlerinin gerçekleştiği ana bölgeyi kapsadığından, aynı zamanda alanın bölgesel ekonomideki öneminin ortaya konması açısından önemli bir potansiyel taşımaktadır.

Bu doktora tezinin ana bileşenleri, şimdiye kadar gerçekleştirilmiş arkeolojik kazı ve yüzey araştırmalarının çoğunlukla henüz yayınlanmamış verileri 2011-2014 yılları arasında gerçekleştirilmiş yeni araştırmaların verileriyle genişletilerek oluşturulmuştur.

Doğu Dış Mahalle, kentin kuzeydoğusunda bulunan yüksek plato üzerindeki konumuyla kentin geri kalanından ve çevre araziden ayrılır. Bu alanın topoğrafik özellikleri ve içinde bulunduğu bağlam, tarihsel gelişiminde, yerleşim düzeninde ve yüklenen işlevlerde açıkça fark edilebilen farklı bir dokunun oluşmasına sebep olmuştur. Bir çeyrek yüzyıldır devam eden araştırmalar bu alan hakkında çokça bilgiye ulaşmayı sağlamıştır. Ancak alanın birçok farklı yönü hakkında da daha detaylı araştırmalar yürütülmemiştir. Bu sebeple, bu proje alan hakkında elde edilmiş tüm verinin toparlanıp bir araya getirilmesini; eksik parçaların yeni arazi çalışmalarıyla tamamlanmasını; buradaki 'kent çeperi olgusu'nun niteliklerinin belirlenmesi ve şimdiye kadar elde edilmiş tüm verilerin bütüncül, ayrıntılı ve ulaşılabilir biçimde sunulmasını amaçlamıştır.

Doğu Dış Mahalle hakkında önceki yılların kazı sezonlarında elde edilmiş bilgiler oldukça fazla ve çeşitlidir. Bu sebeple, gerçekleştirilmesi gereken ilk iş mevcut olan tüm verilerin çalışma alanının tarihini kapsamlı biçimde ortaya koyacak düzenli bir biçimde bir araya getirilmesi olmuştur. Bu yaklaşım aynı zamanda Doğu Dış Mahalle'deki çalışma alanları hakkında bilinen tüm tarihsel ve işlevsel bilgilerin yeniden değerlendirilip, yorumlanmasını sağlamıştır.

Sagalassos'un Doğu Dış Mahalle'si, Helenistik dönemden başlayarak Doğu Nekropol ile büyük oranda çakışmaktadır ancak ölü gömme faaliyetleri ağırlıklı olarak, alanı çevreleyen sarp kayalık yamaçlarda yoğunlaşmıştır. Alanın merkezi kısmı, Agustus Dönemi'nden itibaren kentin ana zanaat bölgesi olarak gelişmiştir. Şimdiye kadar Doğu Dış Mahalle'de sadece çömlekçilik aktivitelerinin yapıldığı kesin olarak belgelenebilmiştir fakat başka zanaat türleri de (cam üretimi, metalürji, kumaş boyama vb.)tamamen konu dışı bırakılamaz. Aynı zamanda, çalışma alanı içerisinde ve yakın çevresinde belirli alanların kil ocağı (merkezi çukurluk), taş ocağı (kentin doğusundaki en geniş taş ocağı Doğu Dış Mahalle'nin güneydoğusunda yer alır) olarak ve lahit yapımı (merkezi çukurluğun hemen güneyi) için kullanıldığı belgelenmiştir. Son olarak, alanın güneybatı kısmında, *c.* MS 50 ve *c.* MS 350 tarihleri arasında bir seri yarı kamusal yapı ve yapı kompleksi inşa edilmiştir. PQ 2 alanında gerçekleşmiş bir şölen yemeği belgelenmiştir ve ön tanı olarak buradaki yapı *schola* olarak tanımlanmıştır. Buna ek olarak, G açmasında ortaya çıkan kalıntıların ise -örneğin büyük baş hayvan pazarlarının ve çeşitli şenliklerin düzenlenmiş olabileceği- çok amaçlı bir kampüs yapısına ait olduğu düşünülmektedir.

Coğrafi olarak çevresinden net bir şekilde ayırt edilebilir nitelikte olmasına rağmen, bu alan, *continentia aedificia*'nın (kent surları dışına doğru kesintisiz şekilde genişlemiş iskân alanının) bir parçasıdır. Daha geniş bir açıdan bakıldığında çalışma alanı (çoğunlukla Yunanca konuşulan Doğu Akdeniz coğrafyasında kullanıldığı şekliyle) bir *proasteion* ya da (çoğunlukla Latince konuşulan Batı Akdeniz coğrafyasında kullanılmış şekliyle) *suburbium* olarak da tanımlanabilir. Ancak, bu iki terimde de ortak bir sorun vardır: ikisi de antik kent çeperinde daha geniş ölçekli alanlar için kullanılmıştır. İki terim de şehir dışındaki çiftlikleri ve *villae* olarak tanımlanan kırsal alanları da kapsar. Bu çalışma, anıtsal kent merkezinden ıssız dağ eteklerine kadar birbirinden farklı kentleşme düzeylerinin birbirleriyle etkileşiminin karmaşık çerçevesini ortaya koymaktadır. Sagalassos'ta şimdiye kadar tanımlanagelmiş farklı bölgeler arasındaki sınırlar aslında hiçbir zaman o kadar keskin olmamıştır. Geç Roma döneminden itibaren ise bu sınırlar iyice kaybolmuş, farklı bölgeler daha da fazla birbirine geçmiştir. Sagalassos'ta MS 7.yy.'da gerçekleştiği bilinen deprem kent merkezindeki kentsel doku için bir kırılma noktası teşkil ederken, Doğu Dış Mahalle'nin zaten bir önceki yüzyılda büyük ölçüde terk edilmiş olduğu görülmektedir. Bu alanın terk edilişi, uzun bir sürecin sonunda gerçekleşmiştir. Bu süreç boyunca da birbirini takip eder şekilde öncelikle alanda zamanla atıklar birikmeye başlamış; güney batıdaki (yarı) kamusal kısım terk edilmiş; daha eski anıtsal mezarlar yağmalanmış; terkedilmiş yapılar tamamen yıkılmış; tarım ve hayvancılık aktiviteleri alanda tekrar yapılmaya başlanmıştır. Ayrıca mevcut çömlekçilik faaliyetleri de, bu süreçte henüz nerede olduğu bilinmeyen başka bir alana taşınmıştır. *Proasteion* içerisindeki son önemli müdahale, tepenin doğu sırtı üzerindeki en yüksek noktada inşa edilmiş bir Erken Bizans kilisesidir. Fakat bu yapının da MS 7. yy.'daki depremle yıkılmadan önce boşaltılmış olduğu görülmektedir.

Yapılan çalışmalar sayesinde Sagalassos'un Doğu Dış Mahallesi'nin tarihi, Klasik/Helenistik dönemden başlayarak, Karanlık Çağ olarak adlandırılan döneme kadar, yani yaklaşık bin yıldan daha uzun bir dönemi kaplayacak şekilde yeniden kurulabilmiştir. Umuyoruz ki, bu çalışma gelecekte konunun başka önemli açılarının (sosyoekonomik) derinlemesine araştırıldığı, farklı çalışmalara da zemin hazırlayacaktır.

INTRODUCTORY REMARKS

Even though the length of the bibliography might suggest otherwise, this thesis has to a large extent been a concatenation of subjects on which only limited information was available for the (wider) region under study: *suburbia*/*proasteia* in general, but also terracing, primary cremation, *scholae*, *collegia*, *campi*, quarrying, aqueducts, 'middle class', and many details throughout this thesis. For these subjects we had to find parallels from other parts of the Ancient World and in some cases from different periods. This also led to the use of Latin terminology in some cases for which there is not a one on one Greek alternative (*e.g.* '*panygereis'* refers to the activity, '*campus'* to the actual location).

Throughout this thesis, site names and conventional toponyms are written in capitals, for example 'site PQ 2', 'site G', 'the Odeon', 'the Eastern Residential Quarter', 'the Upper Agora', 'the Central Depression', 'the Northern Necropolis', 'the Potters' Quarter', *etc.* However, when refering to specific buildings that are not conventionally used as site names, we use lower case letters. We will, for example, refer to 'the *schola* (at site PQ 2)', 'the *campus* (at site G)', 'the church (at site PQ 5)', 'the *naiskos* tomb (at site PQ 1)', 'the coroplast workshops (at site PQ)', *etc.* The same applies when we use derivates from site names, in which case we will for example write about 'the residential area east of the city', 'the Hellenistic potters' quarter'. That is why we will refer to 'the Macellum' or 'Lower Agora' of Sagalassos, when referring to the site, but we will talk about 'a *macellum'* or 'the *agorai* of Sagalassos' when referring to the function of a building or when talking about such features in general.

Non-English terms are written cursive, but this does not apply to proper (site) names or toponyms. Cursive is also used throughout the text for Latin abbreviations (*e.g. et al., c., etc.*), but not for Latin terminology that has been anglicised (*e.g.* postmortem) or that is firmly established in the English language (*e.g.* consensus). We will as much as possible use Greek terms when referring to structures and features in our case study at hand in stead of possibly more common Latin or English counterparts, but try to refrain from becoming too pedantic (we obviously use 'theatre' in stead of '*theatron'*). This can not always be persevered, for example when there is – to our knowledge – no known Greek alternative that is applied in the same sense (for example '*campus'*), or when we feel that the Latin term is generally used in scientific literature (for example '*ustrinum'* in stead of '*kaustra'*). Likewise do we feel entitled to use the term '*macellum'* in stead of '*macellon'*, as the building type is a Roman introduction into the East.

We refer as consequently as possible to ancient personae with their names in (a transcripted version of) their original language, unless only their Latinised or Anglicised names are commonly integrated (e.g. Trajan, Arrian, Pliny,…). When referring to titles of ancient works, we consequently use the original title (e.g. *Anabasis Alexandrou* in stead of *Anabasis of Alexander*); where necessary we provide a translation to prevent possible loss of information (e.g. *Hellados Periegesis* (*Description of Greece*)).

We will sometimes apply modern equivalents of ancient terms (for example 'city-state' for '*polis'*, 'burial grounds' or 'cemetery' for '*necropolis'*, *etc.*), in order to break the monotonicity of long paragraphs covering a specific subject. We acknowledge the possible issues associated with anachronistic terminology and we denote these as much as possible when introducing such terms.

Time periods are written with capitals, including their specifications: *e.g.* Middle Hellenistic, Late Roman. When used as a verbal adjective, however, they become lower cased: *e.g.* 'hellenised' and 'romanised'. Throughout the text we use the more common terms 'BC' and 'AD', but would suggest the use of 'BCE' and 'CE' if (parts of) this

thesis make it into publication. Most of the dates referred to in the text are derived from the relatively well-known chronology of the local tableware (Sagalassos Red Slip Ware or SRSW). This chronology is generally referred to with its phases (1-9), but throughout the text we use the absolute dates (**Table A**) in order to stay consequent with dates derived from other sources. **Table B** provides an overview of the time periods most commonly referred to in this thesis and the way they are conceived in absolute dating.

SRSW phase	Absolute dating	Sagalassos specific time periods	General time periods
SRSW phase 1	*c.* 25 BC – *c.* 50 AD	Early Imperial	(Julian-Claudian)
SRSW phase 2	*c.* 50 – *c.* 100 AD	Early Imperial	Imperial
SRSW phase 3	*c.* 100 – *c.* 150 AD	(Middle) Imperial	
SRSW phase 4	*c.* 150 – *c.* 200 AD	(Middle) Imperial	
SRSW phase 5	*c.* 200 – *c.* 300 AD	(Middle) Imperial	
SRSW phase 6	*c.* 300 – *c.* 350/75 AD	Late Roman	Late Antiquity
SRSW phase 7	*c.* 350/75 – *c.* 450/75 AD	Late Roman	
SRSW phase 8	*c.* 450/75 – *c.* 550/75 AD	Early Byzantine	
SRSW phase 9	*c.* 550/75 – *c.* 700 AD	Early Byzantine	Byzantine

Table A. Overview of the Sagalassos red slip ware (SRSW) chronological phases.

Sagalassos specific time periods	Absolute dating	Significant turning points	General time periods
'before human occup.'	before *c.* 480 BC		Archaic
Classical	*c.* 480 BC – 323 BC	death Alexander the Great	Classical
Early Hellenistic	323 BC – 189 BC	Treaty of Apamea	Hellenistic
Middle Hellenistic	189 BC – *c.* 100 BC		
Late Hellenistic	*c.* 100 BC – *c.* 25 BC		
(Augustan)	(*c.* 25 BC – 14 AD)	(death Augustus)	Imperial
Early Imperial	*c.* 25 BC – *c.* 150 AD		
(Middle) Imperial	*c.* 150 AD – *c.* 300 AD		
Late Roman	*c.* 300 AD – *c.* 450 AD		Late Antiquity
Early Byzantine	*c.* 450 AD – *c.* 650 AD	7th century earthquake(s)	
'the aftermath'	after *c.* 650 AD		Byzantine

Table B. Overview of the time periods as used in the text.

Unless stated otherwise, maps and drawings are from the hand of the author. Maps were created with the help of MapInfo, ArcGIS and Agisoft PhotoScan software. The topographic basemaps were produced and made available by Joeri Theelen, Patrick Casier and their teams. Detailed excavation plans for the years 2011-2014 (site F, PQ, PQ 1, PQ 2, PQ 3, PQ 4 and PQ 5) were created by the team of architect Özge Başağaç. When maps by the author are including information mapped by others, it is mentioned as 'based on', 'adapted from', *etc.*

Unless stated otherwise, photographic images are either taken by the author or are copyright of the Sagalassos Archaeological Research Project.

ACKNOWLEDGEMENTS

I would like to start these acknowledgements by expressing my gratitude towards my promotors, Jeroen Poblome and Patrick Degryse, for giving me this opportunity and for showing a lot of patience in dealing with my antics (it is, in fact, a telling sign, proving that Sagalassos is in good hands for many more years to come). Likewise, I wish to thank Penelope Goodman for her inspiration and encouragement. If this thesis has developed into a worthy presentation, it is because I could always depend on their knowledge and constructive comments. The expectations were high, and rightfully so, with many predecessors leaving behind a monumental legacy on the research of Sagalassos. I hope this thesis could live up to at least some of those expectations.

I also wish to thank professor Marc Waelkens, the driving force behind a quarter century of research in Sagalassos and its territory. Thanks to him, I could enroll in the Sagalassos field campaigns as a student. Without him, I would not be where I am today, and no, that is not meant in a sarcastic way. My recurrent participation in the summer campaigns was thus far the backbone throughout my professional carreer and even though I have been very fortunate in my other archaeological endeavours, a season without Sagalassos does not feel complete. Sagalassos did not only become an integral part of my professional carreer, it became an indispensable part of my personal life as well. And I am in good company, since I notice this has been the case for many other Sagalassos-goers as well.

After fifteen years in Sagalassos there are so many friends, colleagues and partners-in-crime that at some point or another participated in the campaigns, that it becomes impossible to acknowledge them all. I would foremost like to thank the members of the archaeological field teams that have contributed to our knowledge of the Eastern Suburbium from 2011 onwards: Günay Kumsal, Sam Cleymans, Gencay Öztürk, Duygu Karakurt, Stijn Ceulemans, Dave Geerts, Sven Van Haelst, Merve Özkılıç, Liesbeth Claessens, Elizabeth Murphy, Peter Talloen and Bas Beaujean. I am also very grateful to have been able to work with teams of invaluable and trusty workmen, many of whom are inhabitants of Ağlasun, the modern village at the foot of Sagalassos. They are – in more than one way – the true heirs of the site and their love and respect for Sagalassos is the surest warrant for its continued existence. I would therefore especially like to thank chiefs Süleyman Çağlar, Ali Toprak, Şeref Bozkurt, Recep Doğutaş and the 'Satılmış clan' (Birol, Ahmet and Hasan), with whom I had the pleasure to work during those fifteen years. Research was obviously not restricted to the field and so many more colleages from a wide array of disciplines have contributed to the study and conservation of eco- and artefacts encountered in the Eastern Suburbium. Some of those scientists have become household names in the team: Nerina De Silva, Emine Kocak, Bea De Cupere, Philip Bes, Veerle Lauwers, photographers Bruno Vandermeulen and Danny Veys, *etc.*

I want to thank my fellow PhD students in the archaeology department for sharing this experience with me. Some of them have successfully finished their doctoral research in the past years, others will certainly do so in the (near) future: Dries, Sam, Julian, Ine, Dennis, Kim, Rick, Rob, Rinse, Ralf, Coşku, Nathalja, Jonas, Mark, Frank and Brecht. You guys are awesome, both in character and in mind, and I have been priviledged to join you for a while down the same road.

The Sagalassos House in Leuven was and is further made into a warmer place because of the presence of many other current and former colleagues with a heart for the project: Ebru Torun, Vera Goethals, Isabelle Aerts, Shuki Tang, Joeri Theelen, Femke Martens en Inge Uytterhoeven all at some point or another shared the offices and corridors of our headquarters. The efforts they put into this project have always been inspiring. None of them

consider Sagalassos as a nine-to-five job, not because they feel obliged, but because they feel that it is not a 'job' (remark how I carefully refrain from using the word 'avocation'). I have to admit that I actually have approached the project as a nine-to-five job (*i.e.* 21h to 5h, that is) during certain periods and I wish to appologise for my infrequent presence at regular office hours. My absence did not mean that the project was not on my mind, but rather that it was always on my mind.

Although they have not been directly involved in this study, I really would love to thank my university friends who made studying archaeology in Leuven into a wonderful and all too short experience: Bart, Niko, Jan, Jurgen, Jakke, Jokke, Pedro, Jeff, Inge, Karolien, Tijl, and many, many others. We shared quite some good times and I am sure we will be sharing a lot more of them in the future.

Mijn moeder, vader, broer en zus, ik wil jullie van harte danken voor jullie nuchtere en positieve ingesteldheid. Ik voel dat jullie me net zo hard zouden steunen in om het even welk ander doel ik zou nastreven, en dat is een heel rustgevende gedachte.

Writing a doctoral dissertation is quite an endeavour, not only for the PhD student himself, but certainly also for the people around him. My lovely girlfriend and wife Özge had to live with a 'thesis creature' for all those years, during which 'the thesis' served as an excuse and reason for many irregularities in our lifestyle. She, however, made sure I did not permanently drift off into a state of perpetual jetlag and into a debauchery of unhealthy food and drinks. It cannot have been easy for her, but she was unrelentingly supportive and encouraging throughout those years. Just one of the many reasons why it is so easy to love her…

PREFACE

The ancient city of Sagalassos (Burdur province, Turkey) has been the subject of continuous and ongoing scientific research since the late 1980'. The site is located on a south-facing mountain slope in the mountains of the Western Taurus, in the southwest of Turkey. The earliest evidence for permanent human presence at the site goes back to Classical/Hellenistic times and the town appears to have been inhabited practically uninterruptedly until the 13th century AD. Most of the buildings and features on the site, however, date from Late Hellenistic to Early Byzantine times; an early 7th century earthquake would wreak havoc to the urban texture. Nonetheless, since the site has never been intensively looted for building material and most archaeological contexts are protected underneath thick layers of collapse and erosion, Sagalassos offers a challenging, but huge potential for scientific research. Professor Marc Waelkens[i] has made it into his lifework and inspired many other scientists to follow in his footsteps. His succession is ensured by professor Jeroen Poblome[ii], the current director of the Sagalassos Archaeological Research Project (SARP).

The past decades have provided a wealth of information on the history and layout of Sagalassos and its territory. While research on all aspects of the the ancient city will be ongoing, specific study projects are directed to shine more light on certain open reasearch questions. In 2010, professors Jeroen Poblome and Patrick Degryse[iii] jointly devised a new research project on a topic that had been simmering in their minds for a quite a while. The project application form required a summary in layman's terms, and it is only fitting to repeat this initial onset, as it holds true now as much as it held true in 2010:

> "*The project proposes to investigate the phenomenon of urban periphery in antiquity, a virtually uncharted topic in the eastern Mediterranean, from the case-study of the eastern quarter of Sagalassos. So far, the earliest activities in the quarter were traced to Classical/Hellenistic times (5th-2nd centuries BC), while a final phase is preliminarily associated with (Early) Byzantine times (7th century and beyond?). In this period of up to a millennium and more, the origins of the phenomenon and its developing and decreasing functionalities will be mapped, through an interdisciplinary research programme. The project holds important potential to document the contribution of the artisanal world to its regional economy, reveal the complex and developing social matrix sustaining the evolution of the urban periphery in antiquity, as well as contribute to the study of ancient urbanism.*"[iv]

Both Jeroen and Patrick had been deeply involved in the research of the Eastern Suburbium – which was then known as the Potters' Quarter – since the late 1990's and most of the subsequent research within the quarter has been at least partially planned and executed under their supervision. Their knowledge on the area is daunting for any aspiring doctoral student working on the topic. Even though I myself have been participating in the yearly excavation campaigns in Sagalassos since 2001, I was never involved in the research in that 'outpost' of the site. Even then the Eastern Suburbium appeared to be a separate entity, although the results of its research were closely interlinked with the rest of the site. Despite my yearly participation in the Sagalassos summer campaigns,

[i] Marc Waelkens is emeritus Professor of Archaeology at the department of Archaeology, Art History and Musicology at the University of Leuven (Belgium) and former director of the Sagalassos Archaeological Research Project (SARP).

[ii] Jeroen Poblome is Professor of Archaeology at the department of Archaeology, Art History and Musicology at the University of Leuven and current director of the Sagalassos Archaeological Research Project.

[iii] Patrick Degryse is Professor of Archaeometry at the department of Earth and Environmental Sciences and director of the Centre for Archaeological Sciences (CAS) at the University of Leuven.

[iv] 2010 research proposal by Jeroen Poblome and Patrick Degryse, which was eventually supported by the Research Foundation Flanders (FWO) as Project G.0562.112010.

my professional career had steered me away from the academic world. Therefore I was genuinely (and pleasantly) surprised when Jeroen and Patrick gave me the chance to start as a doctoral student on this project. The 'outpost' of Sagalassos suddenly became a second 'home'.

The Eastern Suburbium has been the subject of excavations, drilling corings and surveys since the very start of scientific investigations and a lot of data had been assembled before the start of this research project. The 2011-2014 campaigns, however, would see large-scale investment in additional research within the area, in the form of extensive excavations, test trenches and various new and tested survey techniques. This additional research was inspired by the study region's remaining questions. As always, the newly gathered data could not provide one on one answers to these questions, but it did provide us with some unexpectedly rich contexts and new lines of thought.

This thesis could not only build upon data retrieved from the Eastern Suburbium itself. It was first and foremost necessary to identify the exact character of this suburban quarter, in order to be able find comparable data and to position it within the wider framework of studies on urban phenomena and ancient *suburbia*. The first book I took in hand at the suggestion of Jeroen Poblome was *The Roman City and its Periphery* by Penelope Goodman[v] (2007). It may be clear that this work was not only an inspiration and point of reference for my own study, but that it also instigated some of the ideas put forward in Jeroen and Patrick's project proposal. Mrs. Goodman's work has been essential to this research and I am therefore more than pleased that she agreed upon residing on the doctoral committee and even found time to edit the contextual chapters of this thesis.

The above summary needs relatively little revision after finishing this thesis. The earliest features within the Eastern Suburbium are indeed Classical/Hellenistic, a period in which the higher slopes of the area were subdivided into agricultural terraces. The final phase of intensive human interventions ended most probably in the second half of the 6th century AD. During this period we were able to map the genesis, development and demise of the communal infrastructure (street network, water infrastructure and communal buildings), artisanal activities (mainly clay quarrying, stone quarrying and pottery production) and funerary culture (a wide array of burial practices spread over more than 800 years). The current thesis furthermore provides additional insights in the position of the local crafts in the regional economy, gives an onset to the understanding of the social matrix behind the suburban developments (admittedly open for further research) and provides new insights into the study of ancient urbanism and the existence of a complex framework of interacting, but in many aspects significantly distinguishable, urban zones divided by certain boundaries.

While some aspects of the initial project would profit from additional research, the past few years also yielded results that surpassed the initial expectations. While the site F 2011 and 2012 trenches did not provide the aimed complementary ceramic urns, they did provide us with a lot of information on a wide variety on previously undocumented burial practices that could be dated between the 2nd century BC and 4th century AD: a Π-shaped Hellenistic burial monument, a 1st-2nd century AD vaulted (family) tomb, a Roman Imperial primary cremation (a variation on the traditional *bustum*), Roman Imperial pit inhumations, 4th century AD individual tombs and a possible ossuary installed into a terrace wall. Moreover, the excavation allowed us to extent the maximum expansion of the Potters' Quarter northwards onto the terraces. The PQ coroplast workshops excavations succeeded in exposing a complete workshop unit, in reconstructing its internal organisation and in offering a hypothesis on the working of the whole *insula* of workshops. The reopened PQ 1 excavations concentrated on the remains of the *naiskos* tomb. Even though the standing walls of the *cella* were to a large extent dismantled, the podium contained four burial chambers, two of which were encountered intact. This excavation also allowed us to further understand the relationship between the *naiskos* tomb, the dismantled underlying pottery workshop and the adjacent Early Imperial and Late Roman workshops. The PQ 2 excavations provided enough information to identify the central building as a (semi-)public hall, which at least from the 2nd century AD onwards

[v] Penelope Goodman completed her M.St. and D.Phil. at Oxford and is a lecturer in Classics at the University of Leeds.

was used for communal dining. The final dump encountered inside the building constitutes a unique, detailed insight into one of those events. While the PQ 3 excavations did not provide the results hoped for on possible metal-working (the anomaly proved to be natural), it did gave us new data on the terraced clay quarrying in the Central Depression and on the practice of tomb-lined streets. The PQ 4 site as well did not turn out to be what was originally postulated: instead of a watchtower, we are dealing here with a large burial compound, in use from the late 1st or early 2nd to the 4th century AD. All burials inside the compound were encountered intact. Finally, the excavations at site PQ 5 did not produce evidence for an Early Byzantine cemetery (only one burial was encountered), but it did provide us with very detailed knowledge on the history of the church at this site.

These 2011-2014 excavations not only provided new archaeological data. The extensive survey of the wider area (which included the adjacent Elmalı Pınar and Gökpınar areas) allowed us to tentatively reconstruct the final stretches of the main road leading into the Eastern Suburbium from the valley below. At the same time new information was gathered by a geochemical survey[vi] and by geophysical surveys (both by means of ground penetrating radar as well as tomography). The excavations at site F, PQ 1, PQ 4 and PQ 5, moreover, yielded a lot of new data for anthropological and DNA-research – part of a new doctoral research project[vii] – while all excavations provided new material for the various specialists involved in the study of ecofacts and artefacts originating from the site. Since the Eastern Suburbium, though a distinguishable entity throughout most of its history, cannot be studied as an isolated phenomenon, also the results from other old and new excavations and surveys in the surrounding areas had implications for our understanding of the Eastern Suburbium.

The present thesis explains how and why the Eastern Suburbium can rightfully be studied as a distinguishable entity within Sagalassos. Both visible actual and invisible virtual boundaries become criteria enabling us (and the ancient inhabitants of Sagalassos) to separate this area from the rest of the urban texture during most of its history. It is the observance of the appearance and desintegration of some of these boundaries that drives the research and that defines its nature and development through time. We will argue how the Eastern Suburbium cannot be labelled as a '*suburbium*/*proasteion*' before Mid Hellenistic times and after the middle of the 6th century AD, even if the preceding and subsequent periods are not completely devoid of human presence and intervention in the area.

In fact, the start of archaeological research in Sagalassos in general and into the Eastern Suburbium in particular can be seen as heralding a new phase in the history of the site that transcends its symbolic meaning; boundaries can again be redefined. Indeed, the past 25-30 years in Sagalassos are characterised by the reconstruction of ancient monuments, the erection of new 'monuments' (e.g. the entrance building) and general earthworks (excavations) on a scale that might have been unrivaled since Antiquity. The site has furthermore been reintegrated into the wider region by the construction of an asphalted road, resulting in an unprecedented level of accessibility. The site is once again 'inhabited' seasonally by teams of researchers and year-round by tourists. Similar observations can be made for the Eastern Suburbium, but on a more subtle scale. Once again, the Eastern Suburbium of Sagalassos seems to follow a path setting it apart from the rest of the site. We are curious what the future might hold for this part of the site, although we are quite content to know that its suburban days are long gone.

[vi] Dirix *et al.* 2013b; Dirix 2014.

[vii] FWO G.0637.15N: *Contrasting Population Well-Being in urban Roman Imperial Sagalassos (Pisidia, SW Turkey) with its Middle Byzantine Successor Settlement (1st-6th c. CE and 10th-13th c. CE)*.

PART 1. RESEARCH IN THE MARGIN: *SUBURBIA* - *PROASTEIA*

1 INTRODUCTION

1.1 *Status quaestionis* on suburban studies

1.1.1 Defining the research topic

The study of the suburban fringes (urban periphery) of classical cities is still an underrepresented research topic in the history of Antiquity in general and in Eastern Mediterranean archaeology in particular. While extramural *necropoleis* and the occasional urban features attested beyond the city walls receive ongoing attention from researchers[1], there are few examples in which the entire suburban area is studied in its own right, *as* an entity distinguishable from both the city centre and the rural *Hinterland*. Ancients suburbs stretch out beyond the city's formal boundaries (which in specific cases could be referred to as *pomeria*[2]) and encroach onto the surrounding countryside, resulting in a texture that is neither strictly urban nor rural. It does share characteristics with both, however, and it is the interplay between these features that make suburban zones into a unique concept and a legitimate research topic.

We should first of all acknowledge the inherent and possibly deceptive connotations of the terms '*proasteia*' and '*suburbia*', which are addressed more in detail below. The 'Eastern Suburbium' of Sagalassos, the current case study, is most accurately described by the Greek term '*proasteion*'. The use of this term in modern archaeological studies is still rather restricted[3], but it is the more appropriate designation for a suburban development in the

[1] For instance, during the 2011 *Kazı Sonuçları Toplantısı* – an international conference where each archaeological project in Turkey is presented – no less than 19 projects presented the results of excavations, surveys and/or studies of their *necropoleis*: Parion (South Necropolis excavation), Pessinus (documentation of the cemeteries), Antandros (Melis Necropolis excavation), Myndos (anthropological studies), Limyra (works in the Necropolis V), Hierapolis (excavations in the east, south-west and north *necropoleis*), Daskyleion (works on the Koru tumulus), Çine-Tepecik (excavation of burials northwest of fortification wall), Priene (survey and documentation of burial tomb near Theater), Patara (excavation of burials outside north city wall), Assos (Karamattepe excavations), Labraunda (*necropolis* excavation), Rhodiapolis (Opramoas family temple tomb), Teos (South Necropolis excavation), Aphrodisias (documenting of tomb complex in the North Necropolis), Ephesos (Harbour Necropolis excavation), Pergamon (documentation of two *tumul*i), Pedasa (South Necropolis excavation) and Erythrai (*necropolis*) (*XXXIII. Kazı Sonuçları Toplantısı*). Apart from these, many more Hellenistic/Roman/Early Byzantine *necropoleis* in Anatolia are the subject of ongoing research, among which Sagalassos itself.

[2] The term '*pom(o)erium*' poses quite some etymological problems, with uncertainties regarding both the origin of the prefix (from *post-*, *pro-* or *po-*?) as well as the root of *-merium* itself. Roger Antaya provides a convincing account of the tenacious misunderstandings these ambiguities caused among ancient authors and the lasting effect it has on modern linguistic discussions. "*Without question the Romans, by the time they came to write of it, had only the foggiest idea of what the pomerium was originally*." (Antaya 1980, 185). Nevertheless, from both textual as well as more circumstantial evidence it can be derived that the term '*pomerium*' refers to an imaginary line separating the consecrated city from the territory outside, rather than an actual area of land in front of, behind or on both sides of the city walls (Antaya 1980). It is in that sense that we wish to apply the term '*pomerium*' throughout this thesis as a concept not necessarily restricted to Italian cities in Roman times, since the term was clearly predating and transcending Roman cultural traditions. Therefore, we venture to also appropriate the term to preceding city-state cultures (like the Etruscan or Greek *poleis*) and provincial contexts, since these clearly upheld similar ideas concerning the juxtaposition urban-rural and its consequences for their organisation of (sub)urban space.

[3] The recent publication of the collection of articles by Darcque *et al.* (eds.) 2014 (see Footnote 41) might instigate a more generalised use of the term '*proasteion*'.

predominantly Greek speaking part of the Mediterranean. Throughout this thesis we strive to use the term '*proasteion*' in the case of relevant (Greek) contexts, while we will refer to '*suburbium*' and its derivatives for Latin and general discussions on the matter. Nevertheless, since the name 'Eastern Suburbium' (previously referred to as 'Potters' Quarter') has become rather established and follows within a longer tradition of studies on the wider territory (referred to as '*suburbium*'[4]) of Sagalassos, the name is kept and should be understood as the toponym of the study area. That way we also include this study in the (admittedly relatively young) scientific tradition of research and publications on ancient '*suburbia*', which is not exclusive to the Latinised part of the Roman Empire. Moreover, since there are no derivatives from the root '*proasteion*', we will apply the more common adjective 'suburban' rather than neologisms as 'peri-urban', 'rural-urban', 'rurban' or even 'para-urban'[5] for which there are no parallels in ancient literary traditions.

There is not one clear definition for '*suburbium*' in the ancient Roman World, but rather three distinct, though inevitably overlapping, acceptations[6] of this polysemic concept. Modern research on ancient *suburbia* does not always recognize the distinction between these, which is why several studies on apparently the same subject may seem contradictory (see further below in this paragraph).[7] The whole discussion on whether or not to employ the term '*suburbium*' in these studies is also at least partially based on the lack of explicit understanding of these different acceptations.

First, there is the area immediately adjacent to the city centres (the boundary markers of which are discussed in Ch. 2); an area referred to in legal texts[8] as the *continentia aedificia*[9] (if it consists of a continuously built-up area), *imperium domi*[10] and/or *passus mille* (a radius of thousand paces from the city's borders) (see § 1.1.2). This is the area that best overlaps with what Penelope Goodman would prefer to call the "*urban periphery*"[11], or what Gert Audring refers to as the "*Umland in unmittelbarer Nähe der Stadt*"[12], in order to avoid misleading modern connotations and confusing ancient alternative concepts associated with the terms '*sub urbe*' and its derivates and – to a lesser extent – its Greek equivalent '*προάστ(ε)ιον*' (*proast(e)ion*, see further). This zone is characterized by a multitude of ongoing activities, allocated to the city's margins for a variety of reasons (see also Ch. 11): spectacle buildings, burials, temples (and later churches), quarries and mines, artisanal activities, waste dumping, *etc.* All of these activities benefit from their proximity to the city. As a consequence, these are also in competition for the limited amount of space and this area *extra muros* (outside of the city walls) in many cases results in a crowded area that in terms of liveliness – at least during daytime – does not have to yield to the city centre itself.

The second ancient acceptation on the term '*suburbium*' is the one we can most closely relate with the elite lifestyle as portrayed by the ancient authors (see § 1.1.2). This is the area far enough from the city to be effectively avoiding the nerve-wrecking hustle and bustle, but still close enough to reach the city on a daily basis. Here, the residential function is more prevailing, since this is the area of the elite suburban *villae*, of the *horti*, *fundi et praedia* ('gardens, farms and estates')[13] and their associated virtues of *salubritas*, *otium et amoenitas*

[4] See for example Vanhaverbeke *et al.* 2007; Martens *et al.* 2008.
[5] Tréziny 2012, 33.
[6] We prefer using the term 'acceptation' here instead of 'definition', which has a different connotation. Here, 'acceptation' stands for 'generally recognized meanings among the contemporaries' (thus not including modern meanings nor actual definitions), which is also how Gert Audring intended it in his 1980 article.
[7] Compare for example the vast coverage of Witcher's Roman suburbium in his *Extended Metropolis* (Witcher 2005, 121: "*the area extending at least 50 km from Rome*") with the immediate surroundings of Rome covered in the *Lexicon Topographicum Urbis Romae: Suburbium* (La Regina *et al.* (eds.) 2001-2008). Likewise, on the scale of Sagalassos, compare the *suburbium* in Vanhaverbeke *et al.* 2007 with the more limited scope of this current study.
[8] Much quoted legal texts include the Republican *Law of the Twelve Tables*, the *Lex Coloniae Genetivae Iuliae* (so-called Urso Charter) and the 6th century AD *Codex Iustinianus* (see § 1.1.2).
[9] Xavier Lafon refers to this as *continentia (loca)*, which he defines as "*l'emprise occupée par les constructions, notamment les habitations, sans solution de continuité de part et d'autre du rempart"* (Lafon 2001, 201).
[10] Lafon 2001, 200: the *imperium domi* is the area covered by the jurisdiction of Rome's higher magistrates.
[11] Goodman 2007, 2-3.
[12] Audring 1981, 220.
[13] Buzón Alarcón 2011, 18-19, 42.

('health, leisure and charm').[14] The spatial extension of this 'type' of *suburbium* is a matter of debate (see below in this chapter), but it is obvious that the distance cannot surpass a daily commuting travel, since the owners of these *villae* are considered to be citizens whose life and work at least partially takes place in the cities. The term is very closely, but not exclusively, linked with the city of Rome itself.

The final use of '*suburbium*' in ancient texts is almost a philosophical concept, since it includes everything under direct control of the capital Roma and is therefore rather linked with the idea of allegiance than with actual proximity to the *Urbs.*[15] In most cases this term is used to denote the dependence and fidelity of the cities and villages in a fifty to one hundred[16] kilometre radius around Rome, but in a transcendental way it might just as well include the whole of Latium, Italy or even the entire Empire. In the latter case the concept *suburbanitas* is more a state of mind than an actual spatial concept.[17] This acceptation of the term '*suburbium*' is obviously only used in the case of Rome itself, while the first two can be applied to case studies around provincial nuclei as well, both *coloniae* and *municipia*.

The use of the term '*proasteion'* in ancient sources to a large extent overlaps with the first two acceptations[18] of the term '*suburbium*', and at least in one case[19] in a sense not unlike the third acceptation. However, the ancient acceptation of the term is even more vaste, since it is also commonly used to refer to a single suburban house and from Byzantine times onwards the term '*proasteion'* will be increasingly used to describe distant allotments and estates, inhabited either by slaves (used primarily from the 8th century AD onwards) or by parishioners (used primarily from the 10th century AD onwards) (see § 1.1.2).[20]

Our present case study, the Eastern Suburbium of ancient Sagalassos, clearly falls within the first acceptation of the term '*suburbium*'/'*proasteion*': a dense development in the immediate vicinity of an urbanised centre (see § 1.2), characterised by a variety of activities and structures that were deliberately allocated to the city's outskirts (see § 1.3). The third acceptation, on the other hand, can be left out of the discussion altogether, since we are dealing with one specific and well-defined case within an provincial setting in the Roman East[21]. However, precisely because of the ever-changing nature of the 'periurban zone' it cannot be studied isolated from the second view on *suburbia*, in the same sense as it has to be understood in its dependant relationship with the city centre. Therefore, relationship between the Eastern Suburbium and the city centre, on the one hand (§ 3.2), and

[14] Adams 2012, 178-184; Champlin 1982, 99-100; Esmonde Cleary 1987, 173; Morley 1996, 84 map 2 and 91; Witcher 2005, 122; Goodman 2007, 58-59: "*The outer limits of the* suburbium *cannot readily be identified. Approximations such as the 35 km radius are helpful from a modern perspective, but in practice no Roman could have drawn a line indicating the precise edge of the zone, and nor should we. Rather, it must be assumed to have given way gradually to a more distinctly rural landscape* [...]." El Housin Helal Ouriachen adds *pagi et nundinae* ('villages and marketplaces') to this list (Helal Ouriachen 2012, 2). See also § 1.1.2.

[15] Buzón Alarcón 2011, 40-41, Footnote 146: Cicero *In Verrem*, II.2.7; *Ibidem* II.3.66; *Ibidem* II.5.157; Pliny The Younger *Epistulae*, 8.24.9.

[16] Either based on the habitual hundred km banishment radius imposed on exiles or on the zone covered by the jurisdiction of the *praetor urbanus* (Lafon 2001, 200).

[17] Purcell 1987a, 25-36.

[18] Gert Audring also recognises this distinction between 'acceptation 1' and 'acceptation 2' in his discussion on the definition of the ancient Greek term '*proastion*' (see also § 1.1.2): "*Das Lexikon von Liddell-Scott-Jones nennt diese Herodotstelle als einen der ausgewählten Belege für proastion und ordnet sie der Übersetzung 'suburb' zu. Das kann wenigstens den deutschen Benutzer nicht recht befriedigen, denn das englische 'suburb' ist seinerseits mehrdeutig. Es bezeichnet speziell den Vorort (der, wie zu zeigen versucht wurde, hier wohl kaum gemeint ist), sodann aber auch das Land in unmittelbarer Nähe der Stadt, den Aussenbezirk ('outskirt'). Letzteres steht wiederum verschiedenen Deutungen offen. So wünschte man sich, die Wortbedeutung 'Umland in unmittelbarer Nähe der Stadt' würde in dem Standardwerk unzweideutig herausgearbeitet und verzeichnet werden.*" (Audring 1981, 220).

[19] Husson 1967, 187 Footnote 1: Lucianus of Samosata uses '*proasteion*' to denominate the whole central area of the Persian Empire, as opposed to outlying regions such as Armenia, the Caspian Sea or Bactria (Lucianus *Navigium*, 34).

[20] Kazhdan & Talbot (eds.) 1991, 1724: '*Proasteion'*; Husson 1967, 187.

[21] It should be noted, at this point, that the chronological scope of this dissertation both includes the pre-Roman and the Early Byzantine era. This causes several etymological complications since observations as 'Roman East' are meaningless for the earlier periods under study. However, we apply this and similar terms throughout the dissertation mainly as geographical references. The majority of our study material is, without question, Roman Imperial in date. This will undeniably have its repercussions in the focus of the thesis.

between the Eastern Suburbium and the *Hinterland*, on the other hand (§ 3.3), will be treated in more detail in the upcoming chapters of Part 1 of this thesis. '*Suburbium*' has been used in earlier publications about Sagalassos in the second sense of the word, but we believe that by consistently referring to 'Eastern' Suburbium, which implies geographical limitations, we avoid misunderstandings.

It is of obvious importance to establish that the ancient city dwellers understood these distinctions and they themselves also considered the (several layers of) *suburbia* as a separate part of their cities. Ancient authors and legal acts (see § 1.2) indeed recognize the concept '*suburbia*' and even though a large share of these texts directly refer to the atypical case of the Roman *suburbium*, we will demonstrate that the concept must have been recognized by the inhabitants of provincial towns as well. One of the strongest differentiating factors between city, countryside and *suburbia* is their divergent approach towards the incorporation of burials: tombs were banished almost invariably from the city centre, they appear common but dispersed in the countryside and they are concentrated along streets and in specific zones within the *suburbia*.[22] Even this one specific feature must have made *suburbia* into a meaningful and identifiable concept to the ancient population throughout the hellenised and especially romanised worlds.

The ancients we meet while exploring the 'urban fringe' reflect the whole society, but with an emphasis that lies less on the elite than most urban studies: neither the people building and populating the workshops, nor the people running them were members of the ruling class; the most exclusive burial plots will also contain the remains of freedmen, clients and slaves; the traveller passing through the *suburbia* was more likely to be a small farmer offering his produce at the local market than a landowner returning to his *villa* estate, *etc.* The so-called 'middle class'[23] and the poor of ancient societies are therefore more directly accessible through a thorough research of *suburbia* than through the study of city centres. Getting a hold on the lives (and deaths) of these people is one of the main aims of the ongoing research on the ancient population of Sagalassos.

It took relatively long before suburban developments became a valid study topic for scholars of ancient history. Classical Archaeology has long been text-driven and the elite are doubtlessly overrepresented in the ancient sources. When archaeological data gained more influence from the later 19th century onwards, there were a lot of factors − political, financial, aesthetic, practical − inducing the concentration of excavations on urban centres. Attention for *necropoleis* was for a long time dependent on the richness of the burial goods, the monumentality of the tomb and potentially its associated inscriptions. It is only with the rise of Processual Archaeology[24] that archaeology shifted away from art history to become an actual study of mankind. The ever increasing potential of archaeological sciences made it furthermore possible to extract complete storylines from bones and stones and to read larger spans of land without using destructive excavation techniques. However, most survey techniques are specifically developed in order to study land use over large surfaces, with the less densely occupied rural landscapes in mind rather than the urban fringes.[25] Moreover, it took a while before the

[22] There is a wide-spread Anatolian custom of burials *intra muros*, 'intra-urban' or 'intramural'(urban boundaries were not always validated by walls). But throughout Classical-Hellenistic-Roman times this remains reserved for exceptional burials (*e.g. heroa* and tombs for benefactors), and those tombs did not always contain the bodies of the deceased (Schörner 2011, 224).

[23] The term 'middle class' is borrowed from its modern counterpart to distinguish and understand a layer of population squeezed in between the elite and the destitute. Their suggested existence was not just an economic reality, but also reflected in their "*own forms of cultural expression, which were rooted in a class-specific set of values*" (Mayer 2012, 6). While Mayer has been vehemently attacked for his "*unabashedly 'modernist' approach*" (Squire 2013), the presence of a working class layer of society with a certain degree of means and a distinguishable cultural expression is more generally acknowledged (Clarke 2006). There is also little doubt that both time (*e.g.* Republican vs. Early Imperial) and space (*e.g.* Rome vs. provincial towns vs. countryside) have their influence on the composition of this 'middling layer of society', which is why we don't wish to draw conclusions beyond our own interpretation of the data offered by the Sagalassos excavations.

[24] The rise of the Processual Archaeology − or New Archaeology as it was originally called − is usually linked to the publishing in 1958 of *Method and Theory in American Archaeology* by Gordon R. Willey and Philip Phillips.

[25] Goodman 2016a.

archaeologists of Mediterranean Antiquity adopted these new scientific methods within their array of archaeological techniques, let alone applying them in non-urban contexts.[26]

Sagalassos itself went through a similar scientific evolution. The research was initially aimed at identifying the city through the study of its inscriptions and monuments, which were to establish her place in history. Since establishing this research framework, however, the focus could shift towards the study of the society itself and its inhabitants. It needs to be stressed that the Sagalassos Archaeological Research Project, in collaboration with the Centre of Archaeological Sciences at the University of Leuven, always strove to be a forerunner in applying a multidisciplinary approach to the ancient site and its territory. Without this mindset, the scope of the present dissertation would have looked a lot less substantial.

Nonetheless, comparable comprehensive work on ancient *suburbia* is still limited, and this applies specifically to the Eastern Mediterranean. While the *suburbium* of Rome is a rather well covered field of study and specific suburban publications have appeared on Roman Italia, Gallia, Iberica, Britannia and other western provinces, augmented with studies on specific individual cities[27], the catch of publications on *suburbia* for the eastern part of the Empire is far less significant.[28] The rise in the number of rescue excavations in modern cities' outskirts and

[26] In 1981 we read the lament of classicist Gert Audring that "*jedoch Vorstädte antiker Zentren bisher nicht ausgegraben wurden*." (Audring 1981, 217). As recent as 2014, however, Pierre Rouillard is obliged to repeat this plaint for the Eastern Mediterranean in his article aptly called "*Quelle archéologie du* proasteion*?*" (Rouillard 2014).

[27] No list can be fully comprehensive. The amount of studies that − in passing or indirect − deal with the subject 'ancient *suburbia*' would be endless. The following books, chapters and articles, however, are specifically dedicated to the subject '*suburbia*'. **For Roma**, see a.o. Coarelli 1981; Champlin 1982; Purcell 1987a; Morley 1996, 83-107 and 1999; Agusta-Boularot 1998; Lafon 1999; Patterson 2000; Pergola *et al.* (eds.) 2003; Witcher 2005; Goodman 2007; Adams 2008; Coarelli & Patterson (eds.) 2009; Volpe 2012; De Graaf accepted; and of course the series *Lexicon Topographicum Urbis Romae: Suburbium* which is specifically dedicated to the Roman *suburbium* (La Regina *et al.* 2001-2008). **For Italia**, see Mollo Mezzena on Augusta Praetoria (Aosta); Scagliarini 1991 and 2005 on Bononia (Bologna); Santoro Bianchi 1998 on Aquileia; Keay *et al.* 2000 and Hay *et al.* 2010 on Falerii Novi; Bodon & Riera 1998 on Patavium (Padua); Heinzelmann 2001 and Graham 2005 on Ostia; Antico Gallina 2000 on Mediolanum (Milan); Annibaletto 2010 on Iulia Concordia (or Concordia Sagittaria); Cantarella & Lazzarini 2000, Brogiolo 2010, Liverani 2010 and Emmerson 2012 on Pompeii; Coarelli *et al.* 1989 on Minturnae (Minturno); Pasquinucci & Menchelli 2008 on Pisae (Pisa); Varaldo Grottin 2000 on Oppidum Genua (Genoa); Violante 2000 on the territory around Sentinum (Sentino); Adams 2006 on Pompeii, Herculaneum and Stabiae (Castellammare di Stabia); Campanelli 2000 on ancient cities in Abruzzo. **For Sicilia**, see Castoldi 2000. **For Hispania/Lusitania**, see Vega 1994; Corsi accepted on Lusitania; Vermeulen *et al.* 2012 on Ammaia; Feifoo 1998 and Márquez 2010 on Augusta Emerita (Merida); Amores Carredano 2001 on Carmo (Carmona); Rodríguez Azogue & Fernández Flores 2005 on Hispalis (Sevilla); Belmonte 2008 on Barcino (Barcelona); Andreu Pintado 2010 on Los Bañales (Uncastillo); the 2010 conference and publication *Las áreas suburbanas en la Ciudad Histórica* provides us with a collection of articles on the subject in general and Spain in particular, see a.o. Antequera *et al.* 2010 on Baetulo (Badalona), Márquez 2010 on Augusta Emerita (Merida); Ramallo *et al.* 2010 on Carthago Nova (Cartagena), Campos 2010 on Onoba Aestuaria (Huelva), Murillo & Vaquerizo 2010, Schattner & Ruipérez 2010 and Vaquerizo & Murillo accepted on Corduba (Cordoba), Abascal & Cebrián 2010 on Segobriga, Beltrán de Heredia 2010 on Barcino (Barcelona), Ciurana & Macías 2010 and Ciurana Prast 2011 on Tarraco (Tarragona). See also Carme Belarte & Plana Mallart (eds.) 2012 (below). **For Gallia**, see Conges *et al.* 1992 and Heijmans 1996 on Arelate (Arles); a 1997 conference in France led to both *Dossiers de l'Archéologie* (Bedon (ed.) 1998a) and *Caesarodunum* (Bedon (ed.) 1998b) to dedicate issues to Roman *faubourgs* in Gaul, see a.o. articles by Gazenbeek 1998 on Glanum (Saint-Rémy-de-Provence), Perrier 1998 on Augustoritum (Limoges); Guyard 1998 and Van Ossel & Pieters 1998 on Lutetia (Lutèce/Paris); Kern 1998 on Argentoratum (Strasbourg-Koenigshoffen); Paillard 1998 and Lemaître 1998 on Calvados (Lissieux), Cloppet 1998; Goodman 2007. See also Carme Belarte & Plana Mallart (eds.) 2012 (below). **For Britannia,** see Jones 1981 on Lindum Colonia (Lincoln); Esmonde Cleary 1985 and 1987. **For Corsica et Sardinia**, see Jehasse 1998 on Aleria (Alalia). **For Raetia**, see Wiblé 1998 on Forum Claudii Vallensium (Martigny). **For Dacia** (Dacia considered West Roman because of its mainly Latin influences), see Ciobanu 1998. **For Africa**, see Picard 1986 in general; Ballu 1903 and 1911 for Thamugadi (Timgad). **For the (West) Roman Empire in general**, see Purcell 1987a and 1987b; Vega 1994; Part 1 in Bedon (ed.) 1998b, with a.o. Bedon 1998, Chevallier 1998, Agusta-Boularot 1998 and Arnaud 1998; Goodman 2007; Tilburg 2008; Vaquerizo 2010; Garriguet 2010; Buzón Alarcón 2011; Liverani 2011; Helal Ouriachen 2012. Recently, Carme Belarte & Plana Mallart (eds.) 2012 assembles a number of articles on suburban topics, covering (mainly) the Greek colonies in the western part of the Roman Empire: Puig on Rhodos; Castanyer *et al.* on Emporion (Ampurias); Plana Mallart & Martin on Ullastret; Zamora on Burriac; Principal *et al.* on Molí d'Espígol; Mata *et al.* on Kelin; Pomarèdes *et al.* on Nemausus (Nîmes); Tréziny on Massalia (Marseille); *etc*.

[28] Even when we include earlier time periods, this list, though also incomplete, is remarkably shorter than the list covering suburban research in the western half of the Empire: see a.o. Kemp 1981 on Tell el-ʿAmarna (Aegyptus); Nicholas 1981 on Tal-e-Malyan (Persia); Kallintzi 2004 on Abdera (Thracia); Hartal *et al.* 2009 on Paneas (Syria Palaestina); Martini 2010 on Perge (Pamphylia); Santoro 2010 on Epidamnos/Dyrrachion (Epirus). The recent publication Darcque *et al.* (eds.) 2014

the subsequent boom in suburban finds, lay at the heart of the recent *hausse* in publications on the subject in Western Europe. The drop behind in the East can be partially explained by the fact that the implementation of the 1992 Valetta Treaty (Malta Convention) was limited mainly to Council of Europe member states.[29] The recent publication of a collection of articles on *proasteia* in the Greek World[30] might prove to be an impetus for further research. The volume in preparation of a *Journal of Roman Archaeology* Supplement, dedicated to *suburbia* throughout the Roman Empire[31], will attempt to broaden this perspective to the whole Classical world.

Obviously, many studies on *necropoleis* present at least complementary data and several reports on surveys (whether field walking, geophysical scans, aerial photography or epigraphic studies) can inevitably overlap with the outskirts of cities. But the detailed study of an ancient suburban zone as a whole, over an extensive period of time, necessitates a wide array of archaeological data that is only available in very few cases. Large-scale, extensive excavations within the urban margins are in many cases impossible due to continuous occupation, contradictory research priorities or other practical restraints. In the few cases in which cities were adequately accessible – after a definitive abandonment in Antiquity – and subjected to extensive excavations of both the town centre and its outskirts, the data are almost invariably outdated, inadequately published and/or difficult to interpret in the light of relevant research questions regarding the development, organisation or social and economic implications of its suburban quarters.

An additional problem embedded in the study of *suburbia*, already hinted at above, is that the concept itself is rather ill-defined, which leads to deceptive analogies with both ancient and modern interpretations of the concept. Researchers of *suburbia* in ancient, (post-)medieval, modern and current environments conceive and apply different concepts of the term 'suburb'; even contemporary conceptions on *suburbia* shift. Medieval suburbs, for example, are generally fraught with bad connotations.[32] Modern suburbs originate from the satellite cities that sprung up with the development of public transport and serve mainly residential purposes.[33] With the subsequent worldwide growth of cities, there is now barely a thin and diffuse line, if any, left between suburbs and city centres. To make things more complicated, the research field History of *Suburbia*, a subfield of Urban History, applies only to post-1850 (with the implementation of electric railways) and in most cases even post-World War II developments.

More troublesome, however, is that there is also a strong ambiguity in the ancient concepts of *suburbia*[34]: the suburban life propagated in many ancient literary sources is the life of *salubritas, otium et amoenitas*, especially associated with the rustic life of the elite around Rome itself.[35] This is the conceptual area that corresponds with the second association of the term '*suburbium*', as explained above. The study of Rome's *suburbium* is therefore not limited to the immediate fringes of the expanding city, but includes a wide tract of land around the capital

assembles a number of articles on suburban topics set in the Greek East: Monaco on Athens; Salviat on Amphipolis; des Courtils on Xanthos; Morizot on Sparta; Jost on Arcadia; Chryssanthaki-Nagle on ancient Macedonia; Dupont on the Black Sea region; Esposito on Magna Graecia and Sicilia; Hellmann on periurban artisanal developments in the Greek World; Pomadère on the spatial evolution of *necropoleis*.

[29] The Valletta Treaty − in full the European Convention on the Protection of the Archaeological Heritage (Revised) − is an international legally binding treaty confined to the Council of Europe and the European Cultural Convention (although it is open to other parties). Turkey, being a member state, has ratified the Valletta Treaty as early as 1999, making it come into force in 2000. Israel is an 'observer state' that did not sign the Treaty. (Council of Europe, Treaty Office: conventions.coe.int).

[30] Darcque *et al.* (eds.) 2014.

[31] Claeys *et al.* (eds.) in prep.

[32] Goodman 2007, 3: "*'Suburbs', wrote Braudel of fifteenth- to eighteenth-century Europe, 'housed the poor, artisans, watermen, noisy malodorous trades, cheap inns, posting-houses, stables for post-horses, porters' lodgings'. The vision is of suburbs as a second-rate space, where people and activities expelled from the urban centre 'washed up' alongside one another.*"

[33] Goodman 2016a.

[34] See also Buzón Alarcón 2011, 12-14.

[35] Champlin 1982, 99-100; Esmonde Cleary 1987, 173; Morley 1996, 91; Witcher 2005, 122; Adams 2012, 178-184. See also § 1.1.2.

with a radius of up to ten kilometres[36], while some authors study the wider area within a fifty[37] or even hundred kilometre[38] range. Also in the study of Sagalassos itself, the term '*suburbium*' was previously used to denote a wide(r) area around Sagalassos, including fields, gardens, vineyards and elite *villae*.[39] The extension of this *suburbium* was artificially established by the survey's practical constraints, *i.e.* a zone of two hour walking distance around Sagalassos. This meaning of the term '*sub urbe*', though, is not compatible with the present case study in Sagalassos. We should keep in mind that Rome, the capital of the Empire, is the exception; few cities in Antiquity can be usefully compared with the Urbs. Sagalassos, on the other hand, bears significant resemblances with hundreds of provincial towns throughout the hellenised and Roman World. Penelope Goodman, in her groundwork book *The Roman City and its Periphery*, proposes to use the neologisms 'urban periphery' and 'periurban'[40], in order to avoid the confusing and possibly pejorative connotations of the term '*suburbium*' and its derivates. Her terminology has certainly not fallen on deaf ears, as it has been picked up by various recent publications[41] and is gaining momentum.

It may be clear that each of the aforementioned terms is charged with its own anachronisms and/or anatopisms. The term '*sub urbe*' was in ancient times not restricted to Rome (see § 1.1.2), which is why Manuel Buzón Alarcón, in his *Reflexiones acerca del suburbio en la ciudad romana*, defends the use of the authentic terminology.[42] The terminology proposed by Penelope Goodman carries its weight in modern social connotations as well, as it refers to a present-day reality that does not have its counterpart in Antiquity.

The final problem with the definition of '*suburbia*' and '*proasteia*' has been frustrating contemporaries and present-day scholars alike: where does the city end and where does the suburban zone start? Can the *suburbium* include non-urbanised space or should it be altogether urbanised? Should the *suburbium* zone itself be differentiated into zones with clearly distinct purposes? There are answers to these questions, but these are different for each case under study and will be considered for Sagalassos in particular (see paragraphs below). Boundaries of ancient cities were certainly present, (symbolically) meaningful for the contemporary inhabitant and in most cases more visible than within our current cities.[43]

1.1.2 The written record on *suburbia*/*proasteia*: ancient authors, legal texts and epigraphy

As mentioned above, it is important, first and foremost, to establish that the inhabitants of the Ancient World themselves had a concept of and conceptions on *suburbia*, identifying it as a separate entity and distinguishing *suburbia* from both the city centre and the rural *Hinterland*. The most direct reflections of such conceptual views are attestations on *suburbia* found within the surviving ancient written record. Once again, the information from the written sources is most copious, though not exclusive[44], on the *suburbium* around Rome – a case study we already established as not being wholly representative for the rest of the Ancient World. However, some of those texts, when adequately analysed, can be transferred and applied to provincial cases as well and more specifically to the situation of the Eastern Suburbium of Sagalassos.

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[36] La Regina 2001-2008.

[37] Witcher 2005, 120: "*The suburbs appear to have extended for 5 to even 10 km.*" However, throughout his paper the author chooses to refer to an area of at least 50 km around Rome (*Ibidem*, 121 and Fig. 1). See also Morley 1999, 76, 77 Fig. 12.1: "*Most of this area* [the *suburbium* of Rome] *lies within 30 km of Rome, extending a little further up the valley of the Tiber.*"

[38] De Graaf accepted.

[39] Vanhaverbeke *et al.* 2007, 611-613, 621-623; Martens *et al.* 2008.

[40] Goodman 2007, 3-4.

[41] See for example Darcque *et al.* 2014, a compilation of articles on suburban studies in the Greek World: Proasteion. *Recherches sur le périurbain dans le monde grec.*

[42] Buzón Alarcón 2011, 13-14.

[43] Goodman 2007, 11; Buzón Alarcón 2011, 15-17.

[44] Alarcón Buzón stresses that "*the predominance, from Republican times onwards, of the terms derived from the idiom* 'sub urbe' *in the literary sources linked with the territory of Rome is directly proportional to the hegemony of this city in the written sources and its role as* metropolis*.*" (Alarcón Buzón 2011, 40; translated from Spanish by author). This implies that the provincial towns are not, in fact, underrepresented in the written record, but rather that Rome represents its expected lion's share.

An additional major source of information is provided by ancient texts on the topic of *necropoleis*, which in some specific cases transcend the mere funerary context and refer to the wider (sub)urban setting. Despite the obvious differences in burial rituals and practices throughout the ancient Mediterranean, it is the similarities that are most striking. One of the most predominant conventions is without any doubt the exclusion of human burial from the city's consecrated centre (the area delineated by the *pomerium* in specific Roman connotations) (see Footnote 2), which in all but a few exceptions (see Footnote 22) signifies that *necropoleis* develop within the suburban periphery. Such a practice was not a Roman convention, but was known and widely applied throughout most of the Greek World from Archaic times onwards. Nevertheless, there are few relevant ancient Greek texts concerning the topic; the most direct reference coming from Republican orator and politician Cicero (106-43 BC), mentioning how burial within the Athenian city walls was forbidden on grounds of religion.[45] It is believed that this custom was introduced around the 7th century BC. Reasons for this change in funerary culture vary from the intention to reduce the spread of diseases from the time when inhumation was predominant in funeral culture[46] to cultural and religious views that feared pollution through contact with the dead, be it cremation or inhumation.[47] Also more pragmatic concerns might have played a role, like the taboo on erecting the actual *ustrina* (sites for funeral pyres) within the city because of fire hazards. Also the distress associated with the sights and smells of rotting cadavers were clearly considered as offensive.[48] Especially the Roman approach of suburban burial is considered to be motivated mainly by practical reasons, as the responsible Roman magistrates, for example, saw the problem of disposing of unclaimed corpses as a matter of public policing not unlike the dumping of dung or the discard of animal skins.[49]

At the same time the tendencies and necessities to keep the burial grounds nearby can be estimated to have been as strong: proximity could provide more security (*e.g.* against looting or usurpation) because of more intense social monitoring, it would guarantee easy access (*e.g.* during festivals and commemorations, but also for maintenance), it emphasized the bond between the city, its current inhabitants and their ancestors, the more monumental tombs would offer an aesthetically pleasing gateway to the city, some burial estates also had economic assets as horticultural fields, *etc.* As a consequence, the spatial occupation of the *necropoleis* was to a great extent overlapping with the *suburbia*, where they are competing with other human activities that were allotted to the city fringes. Observations in ancient texts on the interaction of *necropoleis* within and with their surroundings are therefore relevant for most case studies throughout the Empire.

The references in texts by ancient authors almost exclusively refer to *suburbia* in association with existing suburban *villae*, *horti*, *fundi* and *praedia* of the elite in the *suburbium* of Rome. Not surprisingly, most of the authors may be considered as belonging to the elite residing in the capital. However, the available examples of the phrase '*sub urbe*' in provincial contexts are without exception referring to *villa* estates as well. Most of these authors have lived at least a part of their lives in Rome, so this can be regarded as a prime example of exporting the metropolitan archetype to a provincial background, much in the same way as the general custom of simulating the Roman city through urban planning and architecture.[50] Buzón Alarcón recognises a chronological evolution of the idiom '*sub urbe*': while the Republican texts almost indiscriminately refer to the area around the capital itself, the Imperial reorganisation of the territory made the terminology also applicable to other urban nuclei. These elitist authors' views on the *suburbium* concur with the second acceptation of the term '*suburbium*' (as explained in the opening paragraphs in § 1.1). Since this is not directly applicable to the case study of the Sagalassos' Eastern Suburbium, we will not go into detail on these aspects.[51] By contrast, the Latin phrases '*extra*

[45] Cicero, *Epistulae Ad Familiares* 4.12.3.
[46] Bodel 2000, 134; Kurtz & Boardman 1971, 69-70.
[47] Morris 1987, 192; Retief & Cilliers 2006, 48-50.
[48] Bodel 2000, 134
[49] Aemilius Papinianus (142–212 AD), as quoted in the *Digesta* (43.10.5).
[50] Buzón Alarcón 2011, 40 (point 3).
[51] Both Goodman 2007, 18-28 and Buzón Alarcón 2011, 17-35 treat this subject in more detail. Goodman did not limit herself to study the ancient sources for the phrase '*sub urbe*' and its immediate derivates, but also included equivalent idioms as '*extra urbem*', '*extra moenia*', '*extra murum*' and '*proast(e)ion/proaset(e)ios*', while including some relevant descriptive fragments of texts that do not use this terminology.

urbem', '*extra moenia*' and 'e*xtra murum/muros*' are more commonly used to describe features and activities located immediately outside a city's walls or boundaries. Moreover, these terms represent a general concept applicable to any provincial urban setting. These texts, which are in many cases describing military movements, freely refer to events and buildings at the outskirts of cities, such as spectacle buildings[52], temples[53], houses[54], *etc.* The Early Roman Imperial historian Livy (64 or 59 BC – AD 17), describing the area *extra muros* of Aetolian Heraclea, "*which was as thickly inhabited as the city itself*"[55], perhaps comes closest to the concept of the *continentia aedificia* as described above. Strikingly, the suburban *villae* are completely absent in these descriptions.[56]

The Greek word *προάστειον* (*proasteion*) can be traced as far back as the lyric poet Archilochos from Paros (*c.* 680–*c.* 645 BC)[57] and is common in texts by both Herodotos and Thudydides (*c.* 460 – *c.* 395 BC). According to Gert Audring, the term held two different meanings in the Archaic period: on the one hand it could refer to an *extra muros* city development of a residential nature (*e.g.* when population growth exceeded the inner wall capacity) and on the other hand to the part of the *chora* (Greek for *territorium*) in the immediate surroundings of the city.[58] A plain residential use of the term can be recognised in the example of the description by Thucydides[59] (*c.* 460 – *c.* 400 BC) − confirmed by excavations − of the Mende (Kalandra) *proasteion*. But the definition of *proasteion* became more comprehensive throughout the centuries. It was also Thucydides who first used the term in a funerary setting.[60] Apart from funerary and residential architecture, the classical Greek *proasteion* could also include workshops, groves, temples and public memorials, as can be seen *e.g.* in the Athenian Kerameikos District and at the Korinthian Grove of Craneion outside the Kenchriai Gate. The connotations of the classical Greek *proasteion* were thus much closer to Goodman's periurban zone (see § 1.1) than to the area of the suburban *villae* described above. The word would continue to be used by Greek-writing authors during the Roman Republic, High Empire and Byzantine periods.[61]

However, with the foundation of Plato's Academy in the Kerameikos District and Aristotle's Lyceum in the eastern *proasteion*, the term gained a more intellectual connotation. It also became associated with the refined elite lifestyle[62] − though never to the same extent as the Roman *suburbium* − in cities as Ephesos (*Asia*), Alexandria

[52] Tacitus, *Histories* 2.21 on the amphitheatre outside Placentia (Piacenza).

[53] Frontinus, *Strategemata* 3.2.5 on a temple in Greek Caria.

[54] Examples from ancient authors: Tacitus, *Histories* 3.30 on Cremona; Curtius Rufus, *Historiae Alexandri Magni* 8.10.30 on Mazaka/Caesarea (Kayseri) in Asia Minor; Livy, *Ab Urbe Condita* 36.24 on an Aetolian city (Goodman 2007, 245 Footnote 121).

[55] Livy *Ab Urbe Condita*, 36.22.7: "[…] *qua frequentius prope quam in urbe habitabatur* […]". The translation in the text is taken from the online Project Gutenberg (gutenberg.org). A 1912 translation by C. Roberts reads as follows: "where the houses were almost closer together than in the city itself" (Perseus Digital Library). Further down the same paragraphs of Livy's text he refers to the same suburban quarter as "*in vestibulo urbis*" (*Ibidem*, 36.22.11.), an less common idiom for '*extra muros*' that Livy also uses when mentioning the Temple of Honos and Virtus outside, but nearby, Rome's Porta Capena (*Ibidem*, 26.32.4. See also Platner 1929, 258-259).

[56] Goodman 2007, 25-26.

[57] Audring 1981, 217. Nicholas Purcell, however, mentions the work of the poet Pindar from Thebes (*c.* 522-443 BC), *i.e.* his *Epinicia* ('*Victory Odes'*) 129.2, as the earliest source for the term (Purcell 1987a, 26).

[58] Audring 1981, 216.

[59] Thucydides *Historía toû Peloponnêsiakoû polémou* ('*History of the Peloponnesian war*'), 4.69.

[60] *Ibidem*, 2.34: "[...] *Any citizen or foreigner may join in the cortège, and the womenfolk of the family gather at the tomb, lamenting. The tomb they place beside the Public Memorial, the* δημόσιον σημα [demosion sema]*, which is part of the handsomest proastion of the city; this is the place where they regularly bury the war-dead, apart from the casualties of Marathon.* [...]" (translation from Purcell 1987a, 26).

[61] Purcell 1987a, 26; Goodman 2007, 27-28; Kazhan & Talbot (eds.) 1991, 1724; Husson 1967, 187, 200. Other references to *proasteia* in ancient texts include: Herodotos, *Histories* 1.78, 3.142 and 8.129; Sophocles, *Oedipus Tyrannus* 668ff; Pausanias, *Description of Greece* 2.2.4; Polybios, *Histories* 5.59.7 and 5.60.5-8; Flavius Josephus, *Bellum Judaicum* 4.493 and 5.264; Appianos, *Bellum Civile* 2.2.8; Polyaenus, *Strategemata* 5.10.1; Diodorus Siculus, *Bibliotheca Historica* 11.68.3-4; Alciphron *Epistles*, 3, 60; Plutarchus, *Moralia* 601b, *Apophthegmata Laconica* 241c, *De Mulierum Virtutibus* 255c, *Sulla* 12.3 and *Crassus* 1.2; Strabo, *Geographica* 5.3.8, 7.7.6, 17.1.10, 12.3.11 and 12.3.39; Cassius Dio, *Historia Romana* 54.6.6, 56.1.1; Flavius Philostratus, *Vita Sophistarum* 2.579, 2.606 and *Vita Apollonii* 1.7.47; Julianus, *Themistioi Philosophoi* 5.46; Herodianus, *Historia Augusta* 2.1.2, 3.4.6 and 5.4.11; Plato *De Legibus*, 759a; Lucianus *Navigium*, 34; Dio Chrisostom *Orationes*, 7.145.

[62] The 6th century AD scholar Prokopios of Caesarea described in his *Secret History* how the elite from Constantinople spent almost the whole year in their "litoral *proasteia*", with which he probably meant their suburban mansions (Prokopios

(*Aegyptus*), Sinope (*Bithynia et Pontus*), Aegae and Athens (*Achaea*). Eventually, the term '*proasteion'* would become increasingly used from Mid Byzantine times onwards to describe allotments further away from the urban centres and from the 10th century AD onwards to denominate estates inhabited by *paroikoi* ('dependent peasants').[63] In the latter sense the distinction between '*proasteion'*, '*agridion'*[64] (originally used as 'hamlet') and '*metochion'*[65] ('subordinate monastic establishment') would fade and the terms would to a large extent become interchangeable.

Legal texts offer us a view beyond the concerns of the Roman elite. When considering Rome, the legal texts do not only recognize the Urbs itself (*intra muros* – the area enclosed by the Servian wall), but they employ the term '*continentia aedificia*' when it refers to the continuous build-up part of the city extending beyond those walls (*extra muros* or *extra urbem*).[66] The coining of this legal terminology should probably be linked with the need to impose laws applying to the *urbs intra muros* to the parts of the city sprawling beyond the walls as well.[67] Similarly, the term '*passus mille*' represents the area within a thousand steps (one Roman mile) from Rome.[68] However, the terms 'suburbanus', '*continentia aedificia*' and '*passus mille*' are not limited to Rome; references to suburban possessions, the mile radius and continuous occupation beyond the walls also show up in (Spanish) provincial contexts.[69]

This legal equality between the city centre and the city's immediate periphery remained partial, however. Other laws specifically distinguished between the *intra* and *extra muros* parts of Rome, for example the prohibition of burial[70] and the restriction of brick/tile workshops (and other kiln-based artisanal activities?)[71] inside the cities

Apókryphe Historía, 15.36). Nevertheless, there are remarkably few references to the *suburbium*/*proasteion* of Byzantium/Constantinople in the first acceptation of the terms. With water bordering the city on three sides – the Golden Horn to the north, the Bosphorus to the east and the Propontis to the south – most of the suburban development would inevitably sprawl out to the west. There were urban developments across respectively the Golden Horn (Galata) and Bosphorus (Chalcedon), but those were (semi-)independent settlements (Mango 1986, 118). The zone that was most likely to develop into a *proasteion* in the first acceptation of the term would inevitably be located to the west of the centre. That area, that would eventually become contained between the Constantian and Theodosian walls, has been described by Ken Dark as "*a broad swathe of largely open land, containing ecclesiastical and high-status residential complexes, cemeteries, parks and fields*" (Dark 2004, 88). Cyril Mango points out that we lack important information on the (suburban) development of Byzantium/Constantinople: "*Our knowledge of the tentacles of Contantinople, which sink into obscurity after the seventh century, is, unfortunately, very sketchy*." (Mango 1986, 118). Ancient references as well as modern scholarly work tend to concentrate on the (Byzantine) ecclesiastical outposts, most of which would eventually become either incorporated into the urban texture or be recognised as poleis in their own right.

[63] Kazhdan & Talbot (eds.) 1991, 1724: '*Proasteion'*.

[64] Kazhdan 1997, 45.

[65] Angold 1995, 324-325.

[66] The mid-second-century lawyer Ulpius Marcellus quotes the Augustan jurist P. Alfenus Varus using the term '*continentia aedificia*' to refer to this extramural section within Rome's urban periphery: *"As Alfenus said, '*urbs' *means 'Roma' which was surrounded by a wall, but 'Roma' also extends as far as there are continuous buildings: for it can be understood from daily use that Rome is not considered to extend only as far as the wall, since we say that we are going to Rome, even if we live outside the* urbs*.*" (*Digesta*, 50.16.87).

[67] Goodman 2007, 15.

[68] However, there seems to be confusion whether these thousand paces represent the area within the first milestone from the city – according to the mid-second century lawyer Gaius (Gaius, *Inst*., 4.104) or whether they are measured from the continuous buildings onwards – according to the early third-century jurist Macer (*Digesta*, 50.16.154). In the *Tabula Heracleensis* the added phrase '*ubei continente habitabitur*' suggests that the *mille passus* should not be regarded as a rigorous radius around the city, but rather as the area *extra muros* that is continuously inhabited (much like the '*continentia aedificia*') (Goodman 2007, 15-16).

[69] Known examples include the Caesarian *Lex Coloniae Genetivae Iuliae* from the *Colonia* of Urso in Spanish Provincia Baetica, the Flavian *Lex Irnitana* from the unknown Spanish *municipium* Irni or Irnium and a fragment from the *Digesta* (32.1.41.6) concerning Gades (Cádiz), once again in Provincia Baetica. In the *Codex Iustinianus* (*Digesta*, 5.71.16), finally, it is mentioned that suburban estates cannot be sold without a decree from the governor of the province in which it is situated – an obvious reference to provincial situations (Goodman 2007, 15-17).

[70] As mentioned in the *Law of the Twelve Tables* (Cicero, *Leg*., 2.22.45 and 58 = Twelve Tables X.1), in a provincial context in the Urso Charter (*Lex Coloniae Genetivae Iuliae*, ch. 73 and 74) and reinstated by the 6th-7th century AD Isidorus, Archbishop of Seville (Isidorus *Origines*, 15.11.1).

[71] As mentioned in the Urso Charter (*Lex Coloniae Genetivae Iuliae*, ch. 76). Translations differ in the sense that they either only mention 'tile works' (*e.g.* Crawford (ed.) 1996, no. 25, 393-454, esp. 424) or include general 'pottery works' as well (*e.g.* de

and towns. The exclusion from the city centre can also apply to people, as was the case for taboo professions − for example the executers of burials, punishments and executions − in Italian Puteoli (Pozzuoli), Cumae and Bergomum (Bergamo).[72] The distinction could even lead to form distinct political units, as was apparently the case in Pompeii, where magistrates and a council were appointed to deal with the suburban territory.[73] The existence of similar administrative institutions has been suggested for the *pagi* around Caesaraugusta (Zaragoza) and Gallur in Hispania Tarraconensis[74] and Monesterio and the *civitas* Illipula in Baetica.[75]

The Roman elite clearly differentiated between the 'refined' city life (*urbanitas*) and the 'backward' life on the countryside. Since they at the same time appear to glorify the life on the suburban estates (see below), it may be clear that they also distinguished 'their' *suburbia* (in the second acceptation outlined above) from the 'true' rural *Hinterland*. The fact that the ancient authors did not feel the need to explain the concept of a *suburbium*/*proasteion*, implies that their readers were accustomed to the idea.[76] The legal texts and the ancient authors point at a rather stringent ambiguity in their views on the *suburbia*: at the one hand the *suburbia* entail the elite ideology of *salubritas, otium et amoenitas*, within an idyllic setting of suburban *villa* estates; on the other hand the *suburbia* harbour the activities unwanted in the city centres. This is partially explained by the different acceptations of the terms '*suburbium*'/'*proasteion*' (see § 1.1.1). But it was perhaps also this very ambiguity that compelled the legal regulation and protection of the suburban periphery, since the appearance of a city − and the subsequent reputation of its inhabitants − could no longer be restricted to the areas within the walls.

1.2 Sagalassos: a *polis*?

Before we can discuss the current case study more in detail, we need to establish whether it is justified to define the Eastern Suburbium as a *proasteion*. Since a *suburbium* (from *sub* and *urbs*) or *proasteion* (from *pro* and *astu*[77]) can per definition only exist as a dependency from a city (as in 'an urbanised, regional centre'), we need to establish if, and *when*, Sagalassos meets the criteria to be acknowledged as a 'city'. There is, however, no ready definition that can be ticked off, first of all because it is notoriously hard to define the concept of 'city' or, for that matter, the notion 'urbanised'. Definitions differ not only from period to period and from place to place, but also from point of view of the scholar or ancient author in question. It is more appropriate to weigh the case study of Sagalassos against a set of criteria that ancient authors and today's urban historians alike most regularly use(d) in order to acknowledge a specific settlement as an *urbs* or *polis*. Specifically for Antiquity, these criteria can be summed up as follows[78]:

Berlanga 1876, 110-114; Johnson *et al.* 1961, no. 114, 97-104). Vasilis G. Tsiolis stresses that the formula '*figlinas teglarias*' can only include installations for brick/tile production (Tsiolis 1997, 120-121), which has been confirmed by Katelijn Vandorpe (professor Ancient History at the University of Leuven). The reason for the expulsion of tile production from the city is not mentioned. However, in line with other references throughout the text (*e.g.* new cremation pyres cannot be erected within half a mile of the city, cf. *Lex Coloniae Genetivae Iuliae*, ch. 73-74), fire hazard may have been the main reason.

[72] Exceptions were permitted when they were 'on duty', according to the *lex de munere publico libitinario* from Puteoli (*L'Année Épigraphique* 1971, no. 88).

[73] See epigraphic sources NEU-0054; NEU-0055; CIL X, 1042; CIL X, 107; CIL X, 814; CIL X, 853; AE 1990, 186a; EE-0801, 317; CIL X, 924. These magistrates were apparently responsible for the construction of buildings, organisation of labour, repair of roads, organisation of games, regulation of taxes, were involved in religious issues (as perhaps the annual purification of the fields) and were presiding the assemblies that adopted these decrees (Buzón Alarcón 2011, 36-38).

[74] For a detailed study of this Hadrianic *Lex rivi Hiberiensis*, see Beltrán Lloris (2006).

[75] See epigraphic sources CIL II, 1041; CIL II-05, *30 (Buzón Alarcón 2011, 38-38).

[76] Goodman 2007, 18.

[77] The term '*astu*' or '*aste'* refers to the geographical aspect of the city, while '*polis'* should rather be understood as the political community of citizens. Nevertheless, both are sometimes used interchangeable.

[78] This set of criteria is based on Vere Gordon Childe (2009[4]), Lewis Mumford (1961) and Michael E. Smith (2009).

- minimum size and density of the area occupied by the settlement
- presence of 'monumental' buildings
- means of sanitation
- presence of city walls/fortifications
- minimum population size of the settlement
- certain level of diversity within the population:
    - including 'parasite' citizens, who do not contribute in the subsistence economy (craftsmen, transport workers, merchants, officials, priests,…)
    - ethnic diversity
    - presence of a ruling class (which to a large extent will overlap with the 'parasites')
- certain level of administration and government
- centralised economical, religious and cultural institutions
- specialisation in labour
- surplus production
- 'foreign' trade over large distances, *e.g.* import of raw materials or products not available locally

One might also add that some communities could 'boast' the title of *polis* or *urbs* based on ancient traditions or achievements, while not fulfilling the necessary requirements in the eyes of their contemporaries. A case in point is Panopeus, which the 2nd century AD geographer Pausanias scorns for lacking the full range of 'necessary' public buildings (which, according to him, include government offices, a *gymnasion*, a market place, a theatre, but also a *nymphaeum*).[79] We will, however, not include this criterion in the above list, as it should be clear that in the light of the current case study a fully developed urban centre is indeed necessary in order to be able to speak of a suburban development thereof.

These above criteria can, in fact, roughly be divided into three main categories:

1. requirements regarding the **physical externalisation** of the settlement: size, monumentality, presence of city walls and sanitation, *etc.*
2. requirements regarding the **population**: size, diversity, professional specialisation, presence of a ruling class and priests, *etc.*
3. requirements regarding the **organisation** of the settlement: presence of a certain level of government and administration, centralised religious and cultural institutions, surplus production, long distance trade, *etc.*

Some of these criteria appear to be quantifiable, such as 'size of the urbanised area' and 'size of the population', but these might in fact be the least relevant criteria (cf. Lewis Mumford: "*What is more important is to express size always as a function of the social relationships to be served*"[80]). Plato and Aristotle refer to the 'ideal city' as containing 5,000 citizens[81], a number which omits women, children, slaves and resident aliens. They were, however, talking about the ideal *polis* and more than likely were referring to the number of citizens of the whole 'city-state'[82] territory. Since 5,000 is their ideal number, their calculations thus allow for smaller populations as well. Many ancient cities had in fact very modest populations, compared to current standards, with often under 5,000 inhabitants (thus including women, children, *etc.*).[83] Scholars are not wholly unequivocal in determining which and to what extent these criteria need to be met in order to be able to refer to a settlement as a city, as defined above. Certain factors will obviously be affected by the specific time frame in question and the (supra-) regional geographical and political conditions; in short, each case will need to be assessed in its own right.

[79] Pausanias *Hellados Periegesis* ('Description of Greece'), 10.4.1. See also Goodman 2007, 10-11.
[80] Mumford 2009[4], 88.
[81] Kitto 2009[4], 37; Aristotle *Politica,* 1330b–1331b; Plato *De Republica*, 778a–779d.
[82] 'City-state' is, admittedly, a not fully satisfactory translation for '*polis*', but is nevertheless used throughout the text as the modern equivalent. For more detail on that semantic discussion we would like to refer to Kitto 2009[4].
[83] Smith 2009, 26; Scheidel *et al.* (eds.) 2014.

While criteria of the first category (physical externalization) might in many cases be easily deductible from the visible, preserved remains, more extensive surveys/excavations and the collaboration of other sciences are needed in order to reply to less tangible aspects concerning administration, specialisation, diversity, *etc.* The multi- (or inter-)disciplinary approach of the Sagalassos Project allows us to weigh the case of Sagalassos to each of the above criteria.

Sagalassos was a relatively small settlement, both in population size as well as in size of the urbanised area, but it was during most of Antiquity one of the largest settlement within the wider region (Pisidia-Galatia) and the only urbanised settlement within its *c.* 1,200 km² large territory (**Fig. 1.2**). The most recent, conservative estimations on the amount of inhabitants during Roman Imperial times range between 1,500 and 5,000[84] for the town itself and between 10,000 and 33,000[85] for the whole territory. Independently from these results, it has been calculated that the agricultural capacity of the territory, in ideal circumstances, would have been able to sustain a population of 40,000 inhabitants.[86] The area surrounded by the partially traced fortifications[87] measures *c.* 0.128 km² (12.8 ha), but when taking in consideration the estimated maximal city sprawl beyond these walls, especially the residential quarter that developed in the east, the potters' quarter in the northeast and the temple complex in the south, the total area amounts to *c.* 0.375 km² (37.5 ha) (**Fig. 1.4**).[88] This estimation, however, refers to the total available land area within the *necropoleis*, including the terrain occupied by public infrastructure and slopes that might have been too steep for permanent accommodations (then again, parts of the eastern residential area developed on *c.* 25 degrees hillslopes, see **Fig. 3.1**). According to calculations by Femke Martens (responsible for the city surveys), an area of *c.* 25.2 ha was available for habitation or other urban functions in Early Roman Imperial times. The development beyond the fortifications dates from Late Hellenistic times[89] and, as a consequence, the Mid Hellenistic town probably had a still smaller 'urban' population.

Other criteria were more straightforwardly met with, at least from Late Hellenistic times onwards, as can be deduced from the results of excavations and surveys. Sagalassos possessed – possibly from as early as *c.* 150-100 BC onwards – stone fortifications surrounding the heart of the town, which by that time already included a central *agora* with surrounding monumental architecture of a political, commercial and religious nature. Excavations also revealed intricate systems of sanitation, serving private as well as public purposes, at least from Late Hellenistic times onwards. In addition, the study of inscriptions provides additional information regarding the status of the city in Roman Imperial times. Sagalassos received the honorary title '*First City of Pisidia - Friend and Ally of the Romans*' during the reign of Hadrian, which would make the town the Pisidian centre for jurisdiction. More important still was its recognition as '*νεώκορος*' (*neokoros*), allocating Sagalassos as the officially recognised centre for the Emperor cult and responsible for the organisation of the associated festivals. This, in turn, would also be a boost for the economical means of the town and a consolidation for the city's

[84] Willet & Poblome 2015, esp. 137-139. Femke Martens (*et al.* 2008, 137) estimates that the population counted between 2,350 and 3,525 inhabitants; Poblome (in press b) mentions between 2,500 and 3,750 inhabitants. In the most recent article, Rinse Willet proposes an estimation between 1,492 and 1,850 inhabitants, while acknowledging that this is a conservative estimate (Ottoni *et al.* 2016).

[85] According to Vanhaverbeke & Waelkens (2003, 260), the rural inhabitants in the Roman World outnumbered their urban counterparts by a ratio of up to 10/1, but recent, unpublished work by Sam Cleymans has updated that number to 6,6/1 (personal communication).

[86] Vanhaverbeke & Waelkens 2003, 139. This estimation has been upheld in Willet & Poblome 2015, 139.

[87] The 2015 campaign saw the start of a renewed study on the fortifications of Sagalassos. For the first time it was possible to retrieve stratigraphically documented dateable evidence from a sounding along a section of the wall, establishing its original construction date in Late Hellenistic times, with continued use in Roman Imperial, Late Roman and Byzantine times (FO 2015 internal excavation report by Roel Van Beeumen and Jeroen Poblome). This ongoing study might also imply that the currently assumed route of the wall might need adjustments. Nevertheless, this will not alter the current estimation of the total area occupied by monumental centre and adjacent residential areas.

[88] Waelkens *et al.* 2006, 209-210; Poblome in press. When also taking in account the areas occupied by *necropoleis*, the total area covered measures *c.* 80 ha (Martens *et al.* 2008, 130, 136-137, 149 Fig. 8).

[89] Waelkens *et al.* 2006, 209-211. The development beyond the walls started in Late Hellenistic times, as is demonstrated by the layout of a Late Hellenistic Doric fountain house northeast of the centre. This *nymphaeum* probably served as the centre of a residential development, which would ultimately become the large Eastern Residential Quarter.

political and cultural significance.[90] These responsibilities made it necessary for the town to increase the capacity of its public buildings (such as the Theatre and the Imperial Roman Baths[91], see **Fig. 3.4**), beyond the necessities implied by the estimated population of town and immediate *Hinterland*. During festivals, the city would draw in a crowd that far surpasses its normal occupancy and the town boasted all amenities for sportive, cultural and religious celebrations, including a *stadion*, theatre, *odeion* and temples dedicated to gods and emperors.

The study of the political institutions suggests that the town adhered at first to a hellenised and later to a romanised form of local government.[92] Inscriptions dating to Roman Imperial times bear witness to the presence of a wealthy class of *euergetai*, who more than likely also dominated the ruling class of Sagalassos. This local nobility had opportunity to gain Roman citizenship as early as Claudian times, while the subsequent generations could work their way up to equestrian status.[93] Surveys and excavations attested a variety of specialised artisanal occupations throughout the town and it can be estimated that a remarkably large segment of the working population was employed in the production of pottery. Ethnic diversity is more difficult to attest[94], but ongoing mtDNA-research by Claudio Ottoni suggests that the "*pool of people in the region was enriched across time by the introduction of novel lineages, thus indicatingmore complex scenarios and supporting the hypothesis of genetic signatures left by mobility into the area.*"[95] This could be one of the explanations behind the significant differences between concurrent burial traditons, a hypothesis that might be supported by the recorded names in funerary inscriptions as well.[96] Finally, foreign trade manifested itself in mountainous and relatively remote Sagalassos a.o. in the imports of exotic food products (*e.g.* fish from the Nile[97]) and fashionable marbles and coloured stones (*e.g. cipollino* from Euboia, *porfido rosso* from Egypt[98]), and in the export of the locally produced ceramic tableware.[99]

It is not within the scope of this thesis to provide an extensive defence for the urbanised status of Sagalassos; we are convinced that neither modern scholars nor ancient inhabitants would have considered Sagalassos *at its peak* as anything less than a 'fully' urbanised settlement and as the seat of the region's political, administrative, judicial, commercial, religious and cultural institutions. However, some of the aspects mentioned above are only valid for Sagalassos during the Early and especially Middle Imperial period. The following question thus remains: *from which point in time onwards* did Sagalassos become a truly urbanised centre and *at which point in time* did it no longer comply to the criteria? After all, we need an '*urbs*' near which a '*sub*-urb*ium*' can form or an '*astu*' in front of which a '*pro*-aste*ion*' can develop.[100] For now we can safely agree that Sagalassos should be considered a city – with all associated entitlements – for most of the Roman Imperial period. In Part 2 of this thesis, however, we provide an overview and discussion of remains and activities within the Eastern Suburbium over a period of more than a millennium. Was Sagalassos indeed a city throughout Classical, Hellenistic, Early Imperial, Late Roman and Early Byzantine times?

[90] Waelkens 2011, 65-66.
[91] The study of individual buildings, such as the Theatre and Roman Baths, reveal precursors that were built on a more modest scale.
[92] Waelkens 2011, 63-65.
[93] Devijver 1993, 114-116; Waelkens 2002a; Waelkens 2011, 65.
[94] Maybe counterintuitively, the ongoing mtDNA-research on the skeletal remains recovered from Sagalassos does not provide the type of data that would allow for the reconstruction of ethnic diversity in particular time frames of the site's history (personal communication by Claudio Ottoni, Forensic Biomedical Sciences unit at the Unversity of Leuven).
[95] Ottoni *et al.* 2016, 8.
[96] Köse 2005a, 105-110. Roman names, however, could easily have been adopted and do not necessarily refer to someone's ethnical background.
[97] Arndt *et al.* 2003.
[98] Degryse (ed.) 2007, 31 Table 3; internal reports by Markku Corremans and Marc Waelkens.
[99] Willet & Poblome 2015, 133; Poblome 2008, 207, 208 Fig. 4.
[100] The etymological similarities are remarkable throughout other languages as well, see for example the German '*Vorstadt*' and the French '*faubourg*' (from '*fors bourg*', which can be translated as 'out of the town/fortress').

Fig. 1.1. Topographical map of Asia Minor, showing the location of Sagalassos (arrow). The red rectangle shows the outline of Fig. 1.2. From History Workshop (rbedrosian.com).

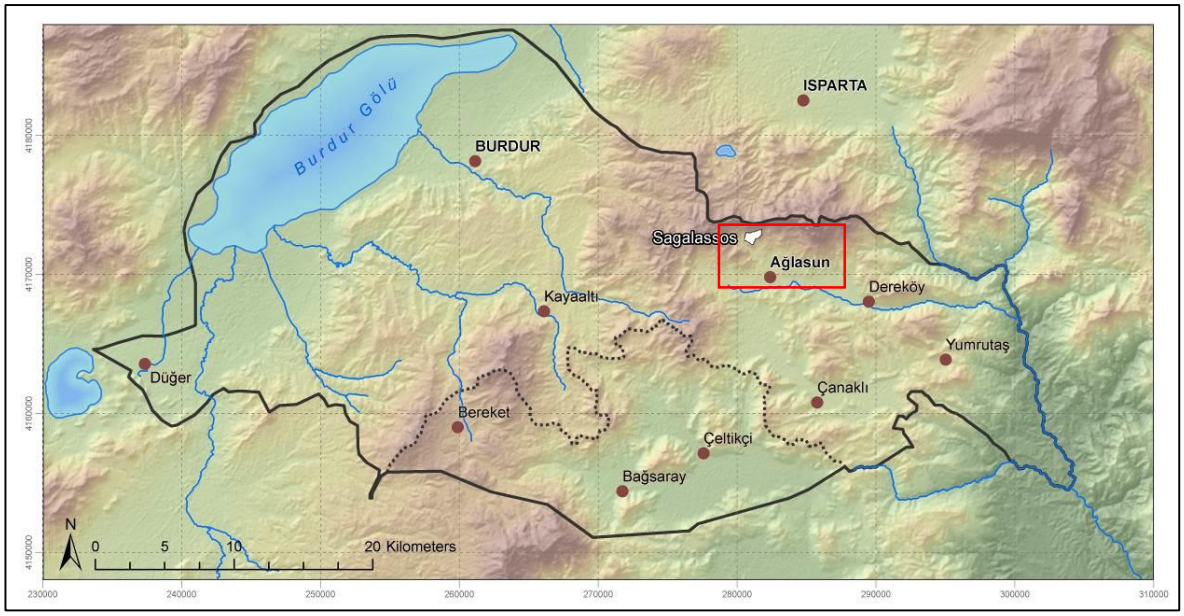

Fig. 1.2. Topographical map of Sagalassos and its 1,200 km² large territory (*chora*). The other sites indicated on the map are modern villages. The red rectangle shows the outline of Fig. 1.3.

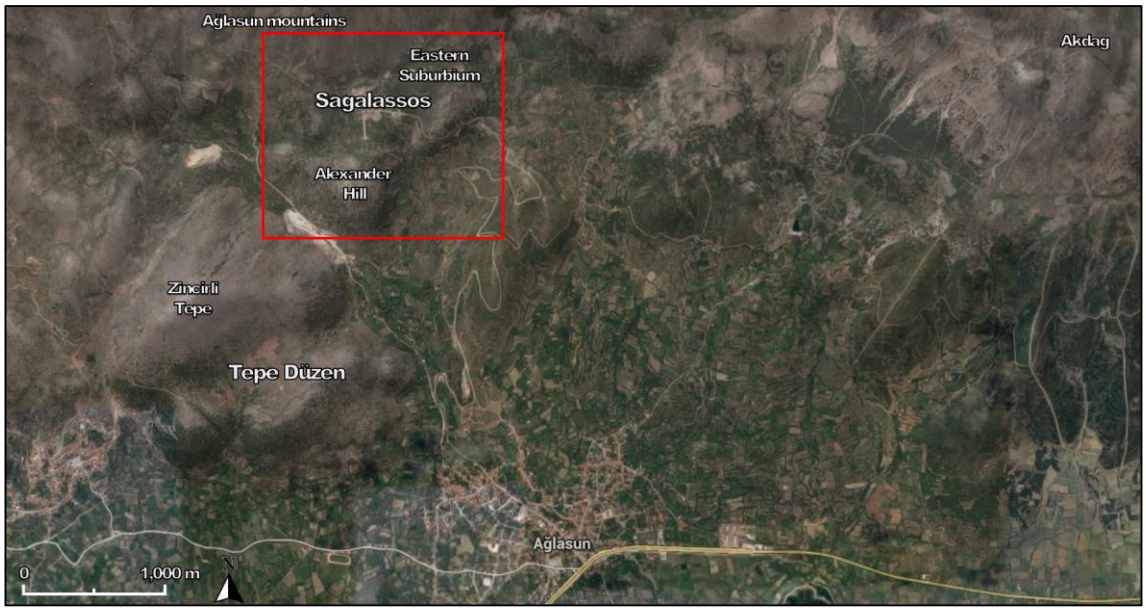

Fig. 1.3. Map of the northeastern quarter of the Ağlasun valley. The image portrays the distance and topographical relationship between Sagalassos and neighbouring Düzen Tepe. The red rectangle shows the outline of Fig. 1.4. Based on Google Maps.

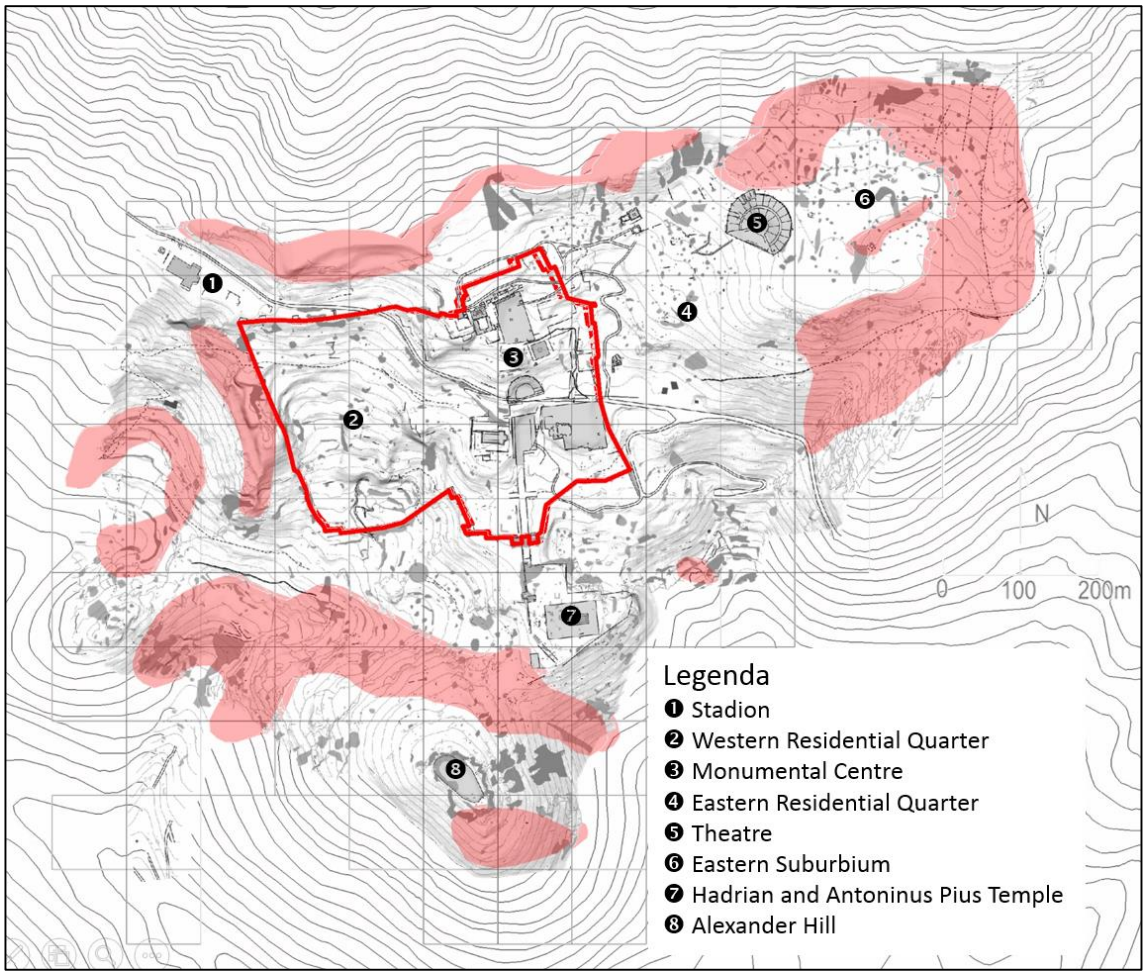

Fig. 1.4. Map of Sagalassos, showing it in relation to the most prominent urban (*e.g.* Eastern Suburbium) and topographical (*e.g.* Alexander Hill) features. The map also shows the reconstructed outline of the city fortifications (red) and the location of the *necropoleis* (shaded red).

Arrianos of Nicomedia (*c.* 86/89 AD – *c.* 146/160 AD), more commonly known as 'Arrian', refers to Sagalassos as "*not a small* polis"[101] in his *Anabasis Alexandrou*, in which he recounts the expeditions of Alexander the Great almost half a millennium earlier. The *Anabasis* cannot easily be linked with the observations in the field; there are not enough remains of Classical Sagalassos to be able to pinpoint the nature, extent or even exact location of the contemporary settlement. As the sources that Arrian could draw upon for writing his *Anabasis* univocally shared the Macedonian point of view, it would be normal to expect them to overemphasize rather than downplay the importance of a captured hostile settlement. While there are physical remains within the outlines of the 'Eastern Suburbium' that can be dated to Classical/Hellenistic times (see Ch. 5), as well as contemporary, but unstratified material encountered at the Upper Agora and during the field survey of the Western Residential Quarter[102], we cannot reconstruct a contemporary, monumental urban centre that might warrant the use of the term '*proasteion*' for this time period. We need to keep in mind that Archaic and Classical authors themselves mainly considered political criteria for the definition of the *polis*, putting far less emphasis on the physical attributes and amenities of a settlement. The *polis* was primarily defined by its citizens, as we already saw with the ideal city of Plato and Aristotle (see above). In that light, the nearby settlement at Düzen Tepe (1.8 km south-southwest as the crow flies), might have been the dominant Classical centre in the wider region, certainly when taking in account population and size.[103] Nevertheless, Düzen Tepe should be regarded as a large village, and has been catalogued by Marc Waelkens as one of the walled *proto*-urban settlements that develop on Pisidian hilltops from Classical times onwards.[104]

It is likely that the Classical/Hellenistic settlement of Sagalassos was architecturally similar to the Düzen Tepe site, with mainly structures of limited size, consisting of mudbrick walls on top of a stone plinth. If the Classical/Hellenistic centre of Sagalassos was located at the same spot where the currently visible centre would develop, then remains of the former period would to a large extent have been wiped out by the subsequent monumental building operations. Nevertheless, the 2015 test trenches below and alongside the Upper Agora have revealed a few dry rubble walls fitting the above description and predating the monumental infrastructure.[105] Earlier geophysical surveys and test trenches likewise revealed the presence of clay quarrying activities at the location of the Upper Agora, which also predated the monumental interventions.[106] This destructive constructional palimpsest impedes us from appreciating the full scope of Classical Sagalassos. The nature of the Classical/Hellenistic interventions encountered in the Eastern Suburbium – *i.c.* clay quarrying activities (see § 5.3.2) and a series of retaining walls creating a terraced slope (see § 5.2) – suggests a certain level of cooperation (labour, maintenance) within a community, but not necessarily beyond the capacity of a village.

The situation is different from the Mid Hellenistic period onwards, since more archaeological remains within the town centre itself are available for us to assess the level of urbanisation. The already available data was recently finetuned and augmented, since the 2015 excavation campaign focused on the Hellenistic roots of the monumental centre.[107] It is clear that there already was an (upper) *agora*, as well as several adjacent buildings, by Mid Hellenistic times. East of this *agora* a monumental two-storied building was erected (most probably in the early 2nd century BC), which, based on its layout, location and building techniques, has preliminarily been

[101] Arrian *Anabasis Alexandrou*, 1.28.2 (E. Iliff Robson translates it as "*a fairly large city*" in 1929, see archive.org; E.J. Chinnock in 1893 and P.A. Brunt in 1978 translate it as "*a large city*"; see also Footnote 139). This specific phrasing is unique in his work, in which he uses original literary descriptions for each of the cities mentioned (personal communication between Jeroen Poblome and Inge Uytterhoeven).

[102] Femke Martens supervised the urban survey that covered the Western Residential Quarter (see esp. Martens 2004, 246-259).

[103] Poblome *et al.* 2011.

[104] Waelkens 2011, 62-63.

[105] UA 2015 internal excavation report by Peter Talloen; Site G 2015 internal excavation report by Johan Claeys.

[106] UA 2014 internal excavation report by Peter Talloen.

[107] None of the 2015 excavations were published by the time of press of this thesis. Reports on the preliminary results, however, are planned to be inserted in the *XXXVIII. Kazı Sonuçları Toplantısı*, in *Anmed* as well as in other, to be defined, media.

identified as a market building.[108] The closest parallels are other Hellenistic market buildings from Pisidian and Pamphylian sites, which are most likely inspired by earlier examples from Pergamon.[109] It is possible that the Treaty of Apamea (188 BC), which amplified the Attalids' political, commercial and cultural influences in the region, triggered the construction of this type of buildings in similarly mountainous sites. On the other hand, the Ptolemaic cultural and political influence on the region appears to have been limited throughout Early and Mid Hellenistic times, as most of their interests appear to have been focused on the coastal regions. Indeed, its was mostly the Seleucid Empire that pursued an active policy of concentrating surplus production and monetising the (rural) economies.[110] During the 3rd century BC, thousands of Pisidian mercenaries served in the armies of both the Ptolemies and the Seleucids, but it was especially with the latter that good relationships were maintained, which in Sagalassos would also reflect in the decorative schemes, in the shapes and forms of the pottery and in the names of the elite. In practice, Sagalassos and other (northern) Pisidian cities in many ways possessed a high level of self-determination during those times and any step in the helenisation process should not be considered as an imposition, but as a deliberate choice from the local ruling parties themselves.[111]

The erection of a monumental building of this scale, in a truly hellenised style suggests a sound economic position[112] and a local government capable of centralising means, while the building was also regarded as representative for the city's image. Apart from its purpose as a collection point for produce and as a location for monetary and non-monetary exchange, its portico(es) also functioned in the same way as any public stoa.[113] The building style, with pseudo-isodomic walls consisting of rusticated ashlars, is a departure from earlier attested construction techniques within the territory; it is likely that the technical know-how necessary to pull off such an endeavour was external, either by local artisans that learned the trade elsewhere or by foreign travelling architects and stonemasons. Even though large sections of the original Hellenistic walls of this building have survived the test of time, the alterations and adaptations throughout the subsequent centuries were particularly impactful, to the point that the Hellenistic city texture has been significantly obscured by later Roman Imperial and Byzantine interventions on the site. There are several other remains and features at the site that could be identified as Hellenistic, among which the so-called Terrace Building[114] along the northern edge of the Upper Agora, a potter's workshop[115] and the original city fortifications[116], but we expect our current image of Hellenistic Sagalassos to be fragmentary at best. Still, enough of the above criteria appear to have been met with – central government, foreign relations (*e.g.* import of *amphorae*), financial prowess, surplus production, monumentalised city centre, specialised labour– in order for the Hellenistic settlement of Sagalassos, at least from Mid Hellenistic times onwards, to be acknowledged as a city/*polis*. Indeed, it is not a coincidence that the dwindling site at Düzen Tepe, once larger and probably more populous than Sagalassos, was effectively deserted by the end of the 2nd century BC.[117] In the words of Gordon Childe: "*Truly monumental public buildings not only distinguish each known*

[108] Sites UAE and G internal 2015 excavation reports by Johan Claeys.
[109] Köse 2005b; Cavalier 2012.
[110] Bracke 1993, 17-22; Waelkens 2002a, 315-320.
[111] Vandorpe 2000, 489-508; Waelkens 2004; Waelkens 2011, 63; Waelkens & Poblome 2011, 39-45.
[112] That fact that Sagalassos was part of the losing faction in the Battle of Magnesia (190 BC) and was presented with a high fine by the Roman consul (Waelkens 2011, 63-64), makes it all the more remarkable that enough local financial surplus was available for new monumental building programs after the Treaty of Apamea.
[113] Köse 2005b, 139, 155-156.
[114] Waelkens 2002b, 63-64. The market building that Marc Waelkens refers to in this article is not the one discovered in 2015, but concerns a monumental (Early?) Hellenistic wall north(east) of the Upper Agora. Later excavations at that location and especially the results from the 2015 campaign more than likely show that the actual market building was located east of the *agora*; the 2002 'market building' is more likely a terrace wall.
[115] Poblome *et al.* 2013b.
[116] Loots *et al.* 2000 is in the process of being updated (see also Footnote 87), but the proposed Hellenistic origins of at least certain sections of the wall were confirmed during the 2015 excavation campaign (FO 2015 internal excavation report by Roel Van Beeumen). Other excavations in which sections of the wall have been exposed before the 2015 campaign, include the Doric Temple (Loots *et al.* 2000, 614) and the southern gate at the Colonnaded Street excavations (Jacobs & Waelkens 2013, 223-225).
[117] Waelkens 2011, 62-63.

city from any village but also symbolize the concentration of the social surplus."[118] This statement is immediately applicable to the relationship between Sagalassos and Düzen Tepe in the 3rd and 2nd centuries BC.

As stated above, the urban character and regional importance of Sagalassos would all but decrease in the following centuries, even if political autonomy would become an increasingly stretched concept from Late Hellenistic times onwards.[119] Sagalassos was in Early Roman Imperial times the obvious focal point of the wider area and during the first two centuries AD the monumental centre would get its permanent outline. The apparent standstill in monumental construction works in the following century should therefore not necessarily be seen as an indication for decline or crisis, but rather as a status quo resulting from the saturation of the urban plan and completion of all the necessary ameneties.[120] The city would eventually lose its tagline '*First City of Pisidia*' to Pisidian Antioch around 330-340 AD, only to be replaced by the new title *Metropolis*, which it received from Constantius II.[121] Sagalassos would in fact remain the obvious regional centre and only urbanised site within its territory throughout the 4th and 5th and early 6th centuries AD, during which time new monumental architecture would mainly come in the form of private infrastructure (*e.g.* the Urban Mansion, which turned out to be an elite urban mansion) and the first churches, while extensive financial efforts were also spent on the upkeep and restauration of the already existing public buildings (*e.g.* redecoration of the Roman Baths).[122] It may be clear that Sagalassos, which would become the regional bishop's seat, did not lose its grandeur nor its regional influence during Late Roman and Early Byzantine times.

Surveys suggest that the occupation of the site became less dense and less extensive from the later 6th century AD onwards. Other clues for a change in urban status and a gradual fading of the boundaries between previously more seggregated urban, suburban and rural functionalities entailed intramural dumping of domestic refuse, the transformation of the public latrina under the Roman Baths into a manure collector, the encroaching of artisanal activities within former monumental areas (*e.g.* the area east of the Library and the metal-smithing workshop in the northwestern corner of the Upper Agora) and in Byzantine times also the practice of intramural burials (*e.g.* the small Christian cemetery between the Apollo Klarios Temple – converted into a church in the 5th century AD – and Lower Agora) (see § 10.3) . Not all of these indications should be understood as signs of decline, however, as for example the subdivision of public space into negotiable units could be a business model organised by the elite. Similarly, intramural burials mark the end of ancient towns as textbook *poleis*, but not necessarily as urban centres.[123] While none of the above observations necessarily imply that the town had lost its importance as the main regional centre, they do, however, clearly show how activities that were previously to a large extent exclusive to the *suburbia* and *Hinterland* (waste dumping, burials, kiln-based workshops), would eventually come to usurp parts of the former residential and monumental urban texture. This also means that a clear division city-*proasteion*-*Hinterland* can no longer be made from the later 6th century onwards (see also § 9.2.3).

A devastating earthquake in the 7th century[124] and the ensuing aftermath (see § 9.4.1) would provoke drastic changes, including a collapse of the civic institutions and a depletion of the urban population. While the town might have never been completely abandoned, with pockets of civilians adapting to the new circumstances, none of the public buildings would retain its intended function and the road infrastructure and life-giving water supply were probably disrupted beyond repair.[125] This is not to say that there was an alternative urban centre within the territory that could take over Sagalassos' position; the town would remain to be the only regional centre. This is indicated by the investment of efforts in the layout of the *kastron* (see § 2.1) and a new water channel

[118] Gordon Childe 2009[4], 32.
[119] Waelkens 2002b, 64.
[120] Waelkens *et al.* 2006, 209-210.
[121] An inscription dated in the 6th century AD refers to Sagalassos as "*First* Metropolis *of Pisidia – Friend and Ally of the Romans*" (Waelkens 2002b, 66-67).
[122] *Ibidem*, 72-75; Waelkens *et al.* 2006, 217-231.
[123] *Ibidem*, 231-237. See Baeten *et al.* 2012 for the manure collecting in the Roman Baths.
[124] Waelkens *et al.* 2000b.
[125] Martens 2001, 71; Waelkens *et al.* 2006, 244-247.

that wound its way through the vestiges of the city in Byzantine times.[126] While these endeavours reflect the community's continuing resilience, it also bears witness of the forced abandonment of older infrastructure: the ancient water supply system was apparently no longer intact, the street network and squares could no longer be used as originally intended and the monumental buildings were derelict. Even though the ruins of Sagalassos' monumental quarter might have remained the most monumental structures in the wider region for centuries to come, it is obvious that under the post-6th century AD circumstances Sagalassos could no longer fulfil all criteria that define a city as mentioned above.

The Eastern Suburbium of Sagalassos went through the same evolution. Even though there was for a while a continuation in the production of Sagalassos Red Slip Ware (Phase 9) throughout the 7th century AD, along the same patterns as prior to the earthquake[127], there are no indications that its production took place in the Eastern Suburbium. The few indications for human presence after the 7th century AD within the study area are of a pastoral and agricultural nature (see § 9.4.2). The former *proasteion* would thus return to the rural state whence it came.

1.3 Eastern Suburbium: a *proasteion*?

Now that we settled the time frame during which it is appropriate to speak of possible suburban developments as dependencies from the 'city' of Sagalassos, we still need to establish *whether* and *when* the current case study itself – the Eastern Suburbium – can be acknowledged as a *proasteion*. Similarly to assessing the status of a settlement, it is possible to draft a series of criteria that define a suburban development. Buzón-Alarcón, for example, recognizes the following series of characteristics which the 'typical suburb' in ancient times should observe[128]:

- they are multi-functional areas (residential, funerary, ritual, agricultural, recreational, artisanal, *etc.*);
- they cannot exist independent from their urban centres;
- their extension depends on the magnitude of the urban centre;
- they are rapidly changing areas, tied with the growth of the city;
- the development of *suburbia* is clearly linked with the major roads out of the city;
- there is a certain degree of planning[129] involved in the layout of the *suburbia*.

The Eastern Suburbium of Sagalassos is topographically isolated from the rest of the city, making it partially self-centred while at the same time still interacting with and dependent on both the city centre and the rural areas beyond. Continuous human presence on the site has been attested from Classical/Hellenistic times onwards into the 7th century AD, accounting for more than a millennium of human activities, after which few structural remains of human occupation and use are apparent (see Chapter 9.4). Its dominant features include an extensive potters' quarter, mainly located within the centre of the Eastern Suburbium, and an enclosing *necropolis* on the surrounding steeper and more rocky slopes. The division between both functionalities is certainly not stringent, however, and is furthermore complicated by the presence of a host of other activities. Indeed, apart from the range of remains that can be associated with pottery production and funerary rituals, the area also contains features related to agriculture, mining, quarrying, waste disposal, communal and religious feasting, (semi-) public architecture and the construction of additional infrastructure for transport, water supply and drainage. These

[126] See a.o. the UASE 2014 internal excavation reports by Inge Uytterhoeven. Sections of this channel have been exposed during excavations (from north to south) at site G, east of the UA, the UASE street, the Odeion, the Lower Agora and the Colonnaded Street.
[127] Poblome *et al.* 2013a, 171.
[128] Buzón Alarcón 2011, 11-12.
[129] According to Goodman, Roman periurban development was rarely planned (Goodman 2007, 4).

activities, however, are not all attested simultaneously; their diachronic development as well as their mutual relations are among the main study subjects of the current thesis.

This razzle-dazzle of human activity, within a dense framework of constructions, must have evoked an urban atmosphere. But on the other hand there are no indications for permanent residential occupancy of the area. At night and during the harsh winter months, the Eastern Suburbium must have been devoid of the usual bustle and transformed into a genuine 'city of the dead'. This interplay of an urban-like texture filled with elements that are allocated for various reasons beyond the city walls makes the Eastern Suburbium into a unique quarter and thus offers an inherent potential as a study subject in its own right.

The exact relationship between the Eastern Suburbium, the city centre and the surrounding *Hinterland* deserves a thorough elaboration, and that will constitute a large part of the upcoming paragraphs and chapters of this thesis. We are convinced that the above-mentioned characteristics sufficiently position the Eastern Suburbium of Sagalassos within the outlines of *suburbia*/*proasteia*, more particularly within the first acceptation of the terms, and that both the name 'Eastern Suburbium' and its identification as a *proasteion* have been justified for use throughout this thesis. Restraint is warranted, however, for their use in the Classical/Hellenistic period and in the period postdating the 7th century AD earthquake. In those cases the name 'Eastern Suburbium' can still be accepted as the established toponym for the area, while we will refrain from referring to the concept '*proasteion*' or 'suburban/periurban development' for those time frames.

The scientific potential of the Eastern Suburbium of Sagalassos as a case study for research on ancient *suburbia*/*proasteia* remains untapped as long as no relevant data are retrieved from the site in a consistent and meaningful manner. Luckily, the quality and quantity of the information gathered over the past 25 years has turned this potential into a solid case, even in the absence of excavations at a scale applied at other parts of the site. The area has been covered completely by satellite imagery, aerial photography and to a large extent by geophysical and both intensive and extensive field surveys. Based on these results specific areas were selected for tomography, coring and a series of test pits, trenches and more extensive excavations. The past four years, in line with this dissertation, the research within the area could be intensified and directed in order to answer specific questions and resolve gaps in our knowledge.[130] Obviously we can still not claim to have reached an all-inclusive understanding of the quarter: only about three percent of the total *c.* 10.5 hectares of the Eastern Suburbium has been subjected to actual excavations, for instance, and these always yielded a more intricate set of data than could be estimated based on non-destructive research methods alone. This should not be surprising, since the palimpsest resulting from over a millennium of succeeding human interventions obscured many of the earlier traces. Nevertheless, the excavations mainly confirmed and fine-tuned the existing image and the many still missing jigsaw pieces do not longer obscure the overall image of the puzzle.

The research topics that led up to writing this dissertation can be grouped into one holistic question**: why and how did the Eastern Suburbium of Sagalassos arise and how did it develop functionally, culturally and socio-economically throughout time?** If we accept *suburbia* to be a "*widely recognised and meaningful feature of Roman urbanism*"[131], then the research on well-documented case studies will help us to better understand the driving powers behind ancient urbanism and therefore ancient societies as a whole. The ambiguities surrounding the term '*suburbium*' and the misconceptions deriving from these only augment the value of such an undertaking. The Eastern Suburbium of Sagalassos, which can be studied from its earliest origins − before the term '*proasteion*' is applicable – and over more than a thousand years till its subsequent abandonment, makes such an appropriate case. Throughout this dissertation the precise characteristics of the Eastern Suburbium of Sagalassos will become apparent and in the conclusions we will be able to weigh the Eastern Suburbium against the criteria listed above and assess its shifting relations with city and *Hinterland*.

[130] This multi-disciplinary research could be executed thanks to a 4-year grant from the Research Foundation Flanders (FWO G.0562.11).
[131] Goodman 2007, 2.

2.1 Introducing Sagalassos

The ancient city of Sagalassos is located in southwest Turkey on the southern slopes of the Taurus mountains, *c.* 110 km north of Antalya, within the modern province of Burdur (**Fig. 1.1**). The city was visited by European explorers from the early 17th century onwards[132] and several 18th century sketches[133] and early 19th century photographs[134] still serve the current researcher. Robert Fleischer studied the site in the early 1970' and performed the first scientific excavations.[135] Since 1985, the site has been explored in the context of the British Pisidia Project[136], which would eventually give impetus to the ongoing large-scale and interdisciplinary research programme, coordinated by the University of Leuven and directed by Marc Waelkens (1990-2013) and Jeroen Poblome (2014-present). The project strives to study the 1,200 km² wide ancient territory of Sagalassos (**Fig. 1.2**) in all its facets: understanding the origin, growth and eventual decline of Sagalassos, establishing to what extent the town was influenced by, and in its turn affected, the regional development, studying subsistence strategies, ecology and climate, the economy and trade patterns and writing its social history in a wider political context.[137] The multidisciplinary research has led to an ever-growing understanding of the history and development of the site and its territory, uninterrupted from the Mid Palaeolithic onwards.

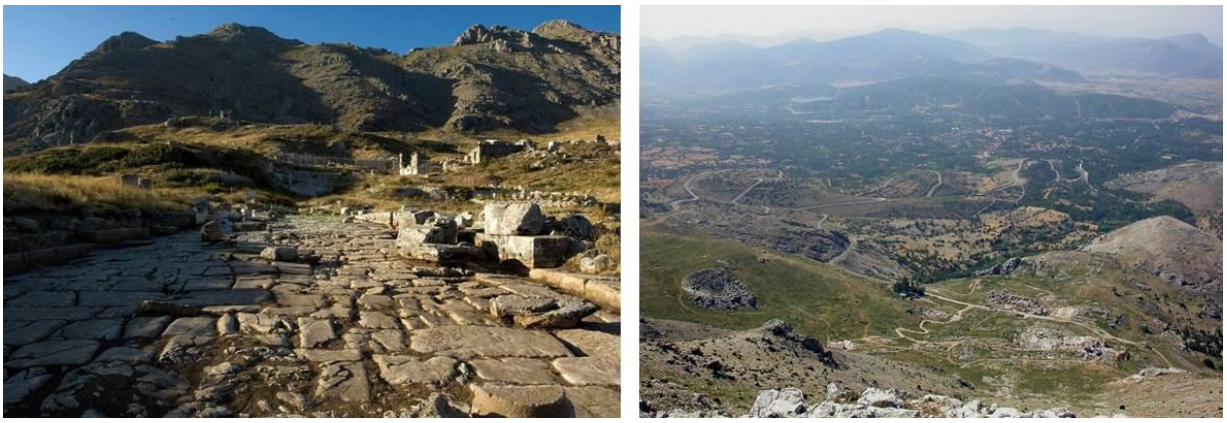

Fig. 2.1 a/b. Views on the Sagalassos' city centre from respectively the Grand Colonnaded Street to the south (left) and from the mountains to the north of the city (right). These steep mountain slopes of the Ağlasun Dağları form a formidable natural northern border of the settlement.

[132] Paul Lucas in 1706, Francis V.J. Arundell in 1824, Charles Texier in 1834, William J. Hamilton in 1836, both Charles Fellows and Leon de Laborde in 1838, Pierre de Tchihatchef (Chikhachev) in 1853, Paul Trémaux around 1858, C. Ritter before 1859 and Gustav Hirschfeld around 1878 (Waelkens 1992, 48).
[133] For example the first city map, made by count Karol Lanckoroński in 1884-1885 (Waelkens 1992, 48).
[134] For example Gertrude Bell in 1907 (Waelkens 1992, 48).
[135] See a.o. Fleischer 1979.
[136] Mitchell 1998.
[137] Waelkens *et al.* 2006.

2.1.1 Introductory historical setting[138]

By the time of Alexander the Great, in 333 BC, the settlement was already deemed important enough to be conquered by his troops, a feat Sagalassos would commemorate in its civic coinage as late as the 3rd century AD.[139] Throughout the 3rd and 2nd century BC Pisidia in general and Sagalassos in particular would strive to an optimal amount of self-determination on the margins of the spheres of influence of both the Attalids and the Seleucids. Especially the good relationships with the latter appeared to have externalised in lasting cultural and political influences, even though after the Treaty of Apamea (188 BC) the region came under Pergamene control. Upon the death of Attalos III (*c.* 170 – 133 BC) his kingdom, including Sagalassos, was bequeathed to the Romans. Eventually in 129 BC Sagalassos was incorporated into the Provincia Asia and effectively became part of the Roman World. Between 39 and 25 BC client king Amyntas was allowed to rule over the area and upon the subsequent Imperial reorganisation of the Empire Sagalassos became part of the Provincia Galatia. This was the start of a prosperous period, and the climax in building activities would be reached in the 2nd century AD, when Hadrian granted Sagalassos the title '*First City of Pisidia - Friend and Ally of the Romans*'[140] and the privilege of organising the Imperial cult. Sagalassos also gained fortune through the trade of its agricultural products and through the supra-regional scale of its pottery industry. The rise of Christianity heralded a new period of welfare as the city became a bishop's seat. A devastating earthquake in the 7th century would in many ways deal a hard blow to the city and its inhabitants. The city would never completely recover, but the conversion of the naturally protected peninsula carrying the Temple dedicated to Antoninus Pius to a *kastron* (fortified citadel) is one of the indications that groups of Byzantine people adapted to the circumstances in a largely ruined city. The eventual abandonment of the site would take place around the 13th century AD, when the Ağlasun village in the valley below would become the new centre of the region.[141]

2.1.2 Geographical and geological setting

The site is located on the south-facing slopes of an east-west oriented mountain range – called the Ağlasun Dağları – within the western Taurus Mountains, with the Akdağ (2,271 m asl) at its eastern end as the heighest point. The southern hillsides were prone to several mass movement processes – such as debris flow, rock fall and creep – with both damaging and protective impacts on the archaeological remains. They were most likely triggered by seismic activity and they mostly occured along the transitional zones between limestone and ophiolitic bedrock. This contact zone was also the location where most of the aquifers would spring, which, in turn, might have been one of the reasons for the settlement of the town at this exact spot.[142] The area is underlain by south-facing ophiolitic mélange deposits and large isolated limestone blocks originating from the allochthonous limestone thrust ridge which forms the northern boundary of the site. In addition, at several locations within the site and territory volcanic tuff layers have been encountered, resulting from Tertiary and Quaternary eruptions from the nearby Gölçuk volcano (now a lake located 5 km north of Sagalassos).[143]

The high location of the site, located between 1,470 m asl (Temple dedicated to Antoninus Pius) and 1,625 m asl (Church at site PQ 5), results in a subhumid to humid precipitation regime typical for the Oro-Mediterranean

[138] The most recent overviews of the history of the site can be read in the Sagalassos Jaarboeken 2008-2009-2010 (in Dutch) (Waelkens 2009; Waelkens & Het Sagalassos Team 2010, 1-172; Waelkens & Het Sagalassos Team 2011, 155-246), a 2011 article in Antike Welt (in German; Waelkens 2011) or the multi-lingual publication accompanying the 2011-2012 Sagalassos exhibition in the Gallo-Roman Museum of Tongeren (Waelkens & Poblome 2011.

[139] The conquest of Sagalassos is described by the 2nd century AD historian Arrian, *Anabasis Alexandrou* 1, 28: "[...] *Despairing of being able to capture Termessus without a great loss of time, he marched on to Sagalassus. This was also a large city, inhabited likewise by Pisidians; and though all the Pisidians are warlike, the men of this city were deemed the most so*. [...]" (translation by E.J. Chinnock, 1893, from websfor.org).

[140] *Inscriptiones Graecae ad res romanas pertinentes* 3, 348: "[...Σαγα]*λασσέον πο[λις, πρώτη τής Πισιδιασ, φίλη χαί σύμμαχοσ] Ρω*[μαί]*ων*".

[141] Waelkens *et al.* 2006 and 2011; Martens *et al.* 2008, 128; Uytterhoeven *et al.* 2010, 291-292; Poblome 2014.

[142] Dirix 2014, 25.

[143] Degryse *et al.* 2003, 263; Dirix 2014, 25-27.

climate. A more humid and warmer climate could be reconstructed for Roman Imperial times, with both preceding and succeeding dryer periods. The current vegetation on the site can be classified as degraded herbaceous vegetation. During the main occupation period of the site, however, the surrounding slopes were covered by a mixed needle-leaved forest of *Pinus* (pine), *Cedrus Libani* (cedar) and *Abies Cilicica* (Taurus fir). Pollen data show that the forests were not depleted at the end of the main occupation phase of the town, suggesting that they were consciously managed throughout history.[144] From the 7th century AD onwards, human impact on the environment significantly decreased, only to resurface during the warmer Mid Byzantine period, which saw a partial recovery of pastoralism and agriculture.[145]

Sagalassos is situated in a tectonically very active and complex region, close to an active subduction zone (where the African oceanic lithosphere is subducting underneath the Anatolian plate), at the intersection of the Hellenic and Cyprus trench and at the interface between a zone of extensional tectonics towards the west and a region of compressional tectonics in the southeast. Three major lithologies can be found outcropping in and around Sagalassos: limestone deposits, ophiolitic mélange deposits and flysch layers. Limestone makes up most of the topographical heights in the landscape, such as the Ağlasun Mountains, Alexander Hill and Zencirli Tepe (**Fig. 1.3**). Six different units have been identified, varying from dark beige over pink to red, regularly interspersed with layers or nodules of chert. The ophiolitic mélange, more specifically a volcanic-sedimentary unit thereof, underlies parts of Sagalassos and can contain sandstone, radiolarite, serpentinite, gabbroid rocks and volcanic rocks. The flysch deposits only outcrop in the southeastern part of the territory and consist of an alternation of sandstones, shale and conglomerate.[146]

Most of the ashlars used throughout the site's history consist of the local beige and pink limestones, which are quarried at various locations throughout the territory (see also § 5.3.1). White limestone, which is attested in many constructions from Flavian times onwards, was probably not extracted in the immediate vicinity, but at the Yarışlı quarry outside the western territorial borders of Sagalassos. Apart from limestone, also conglomerate, breccias, travertine, sand- to siltstone and volcanic tuff were probably quarried locally as well, while different types of high-quality marbles were imported from the Docimeion and Aphrodisias quarries.[147] Other, more exotic stone types have been encountered in less significant numbers, mainly used as decorative architectural elements, wall revetment, *opus sectile* and statuary.[148]

2.1.3 Knowing more

The Sagalassos Archaeological Research Project and its affiliated institutes have produced a large quantity of publications, presentations and workshops throughout the years. A thorough overview would lead us too far astray; we will limit ourselves to the most essential series and publications. There are two series that sprung forth from the project: ten volumes have appeared in the *Studies in Eastern Mediterranean Archaeology*[149] (*SEMA*) series and six volumes – others are in preparation – in the *Sagalassos*[150] series (the first five of which are published as part of the *Acta Archaeologica Lovaniensa Monographiae*). Collaboration with external parties also led to *Herom. Journal on Hellenistic and Roman Material Culture*[151], which is in fact a relaunch of *Facta: A Journal of Roman Material Culture Studies* under a new publishing house. Throughout the years, a considerate amount

[144] Vermoere *et al.* 2003, 171; Dirix 2014, 26-27.
[145] Dusar *et al.* 2011, 152.
[146] Dirix 2014, 28-31; Degryse *et al.* (eds.) 2007, 20-22.
[147] Degryse *et al.* 2007, 20-22; Degryse *et al.* 2009, 100-101.
[148] Other marbles and coloured stones that have been identified at Sagalassos include onyx (probably quarried near Hierapolis), *rosso antico* (Peloponnesus), *verde antico* (Thessaly), *porfido rosso* and *porfido verde* (Mons Porphyrites, Egypt), *bianco e nero tigrato* (probably quarried in Asia Minor), *granito del foro* (Mons Claudianus, Egypt) and *giallo antico* (Simitthus, Tunisia). We should probably not imagine direct import of these exotic stones into Sagalassos; it is more likely that they arrived at the site as leftovers from building projects in the larger cities (Degryse *et al.* 2009, 100-101).
[149] Published by Brepols Leuven, edited by Marc Waelkens *et al.*
[150] Published by Leuven University Press, edited by Marc Waelkens *et al.*
[151] Published by Leuven University Press, edited by Jeroen Poblome, Daniele Malfitana and John Lund.

of doctoral dissertations have been successfully completed, both within the Sagalassos Archaeological Research Project as well as in collaboration with various scientific partners.

In most instances, the more recent years of the Sagalassos excavations have not yet been published in full. Yearly preliminary reports on all aspects of the research do, however, appear in the *Kazı Sonuçları Toplantısı*[152] (KST), the *Araştırması Sonuçları Toplantısı* and the *Arkeometri Sonuçları Toplantısı*, annual collections of concise reports from excavations throughout Turkey, respectively on archaeology (KST), survey (AST) and archaeometry (AmST), which are also made available online (contributions since 2008 covering Sagalassos are only available in Turkish). Simultaneously, more extensive accounts are prepared after each campaign, both for internal use and as official reports for the Turkish Ministry of Culture and Tourism. In many cases we will draw our information from these sources for Part 2 of this thesis.[153]

2.2 Introducing the Eastern Suburbium: from potters' quarter to *proasteion*

2.2.1 Setting

East of the city centre of Sagalassos, in an area of about 6 hectares[154], a mainly artisanal and funerary quarter was identified in 1987. This area has since been referred to as the 'Potters' Quarter', set within the Eastern Necropolis of the site, but ongoing research determined that these terms do not fully cover the actual subject.[155] Several other activities (agriculture, quarrying of clay and limestone, communal feasting, waste dumping, *etc.*) and features (intricate water supply and drainage systems, terraced slopes, monumental buildings, road network, *etc.*) have been attested within the area, while the possible presence of other crafts[156] awaits confirmation.

Even though the quarter was part of the *continentia aedificia* (see § 1.3), it clearly formed a separate entity. The area is not visible from the monumental centre of the town of Sagalassos, since it is situated at a higher elevation

[152] Under the auspices of the Turkish Kültür Varlıkları ve Müzeler Genel Müdürlüğü (General Directorate of Cultural Heritage and Museums), itself a department of the Turkish Ministry of Culture and Tourism. The Sagalassos archaeological research campaigns have been covered respectively in KST XII vol. 2, 119-154 (1989 campaign); KST XIII vol. 2, 283-309 (1990); KST XV vol. 2, 373-418 (1992); KST XVI vol. 2, 175-190 (1993); KST XVIII vol. 2, 119-152 (1995); KST XIX vol. 2, 249-300 (1996); KST XX vol. 2, 283-312 (1997); KST XXII vol. 2 159-180 (1998 and 1999); KST XXIII vol. 1, 11-28 (2000); KST XXV vol. 1, 215-230 (2002); KST XXVI vol. 1, 421-438 (2003); KST XXVII vol. 2, 271-286 (2004); KST XXVIII vol. 2, 317-340 (2005); KST XXX vol. 3, 427-456 (2006 and 2007); KST XXXII vol. 3, 263-281 (2008 and 2009); KST XXXIII vol. 3, 239-266 (2010); KST XXXIV vol. 3, 139-158 (2011); KST XXXV vol. 2, 242-260 (2012); KST XXXVI vol. 2, 35-60 (2013).

[153] The Sagalassos Archaeological Research Project also upholds a tradition of reaching out to the interested public, through the publication of newsletters, reports and books, through the organisation of tours, lectures, exhibitions and workshops accessible to all, through its own websites and more recently also through social media. The (Dutch) newsletters came to fruition in a series of *Jaarboeken*, published between 2009 and 2012, which gave a comprehensive overview of the knowledge gathered from the site so far (Waelkens 2009, Waelkens & The Sagalassos Team 2010, 2011 and 2013). The *Jaarboeken* will be continued as annual *Jaarverslagen*, which will tackle specific topics (the first issue, covering the 2014 excavations, dealt with 'daily life'; the second, covering the 2015 campaign, focused on Hellenistic Sagalassos).

[154] In comparison: the area enclosed by the Hellenistic fortification wall, *i.e.* the monumental centre of Sagalassos with the most important civic buildings and the western residential area, measures 12.8 hectares; the maximum surface covered by the urban area in Imperial times, including the *necropoleis*, amounts to *c.* 80 hectares (Martens *et al.* 2008, 130, 149 Fig. 8).

[155] Intriguingly, though not coincidentally, the term 'potter's field' is regularly used in the English speaking world to denote a graveyard where destitute and/or unknown people are buried. It derives from the Bible, where it refers to clay extraction fields being turned into graveyards because of their unsuitability for agriculture (Matthew 27:7: "*And after they had consulted together, they bought with them* [Judas' 30 silver pieces] *the potter's field, to be a burying place for strangers.*"). This seems to have been a common practice throughout ancient times, since it also appears in similar contexts with several Old Testament prophets (Zechariah 11:12-13; Jeremiah 19:1-13). The term lives on in the English speaking world, a.o. for paupers' and strangers' graveyards in Great Britain, United States and Canada. In other languages, however, the term does not seem to be used outside of its biblical context.

[156] Martens 2005, 244: "*Other craft activity at Sagalassos included glass production, bone-working, textile industry and metal-working, with iron-smithing within the town and smelting in the territory. Of these crafts only smithing was represented in the survey evidence. Glass slag was found in very low quantities, insufficient to localize glass production*."

between 1,570 and 1,620 m, on a platform slightly sunken east of the city's Theatre.[157] The presence of the Eastern and part of the Northern Necropolis, deploying a wide variety of burial traditions and tomb types, is another indicator for its suburban nature.[158] To the west, the area gently slopes towards the Theatre and the higher stretches of the Eastern Residential Quarter; to the east and southeast the slope is much steeper. To the north, the imposing southern face of the Ağlasun Dağları, which is a part of the western Taurus mountains, defines not only the northern edge of the Eastern Suburbium, but of the whole city of Sagalassos (**Fig. 2.1**).

Finally, to the southwest the platform opens into the so-called Central Depression (**Fig. 2.2**), a sunken area *c.* 100 m across, with the gradient of the surrounding slopes fluctuating between 25 and 35 %.[159] The bedrock within this depression consists mainly of a tectonized ophiolite sequence, while the surrounding slopes are mainly limestone. This ophiolitic mélange acts as a water-impermeable layer, which means that penetrating rain and ground water will drain off to the center of the Central Depression. This is an important geological-structural difference with the city centre; this water flow is the most important agent in the weathering of the ophiolitic sequence. This will leave the bottom of the synclinal Central Depression with a clay-rich soil, which has defined the human exploitation of the area.[160] Raw clay material was quarried from the Central Depression and used in the production of pottery and ceramic building materials from Classical/Hellenistic times onwards.[161] The clay quarry has been considered as a 'moving' open mining system: clay was quarried progressively throughout the depression.[162] Clearly, the presence of ophiolite-flysch clays within this area may have been a triggering factor for the location of the industrial quarter.[163] Since the Eastern Suburbium is surrounded by steep, rocky slopes, the easiest access is through the city centre, via a narrow stretch of land in between the backside of the Theatre and the steeper mountain slopes.[164]

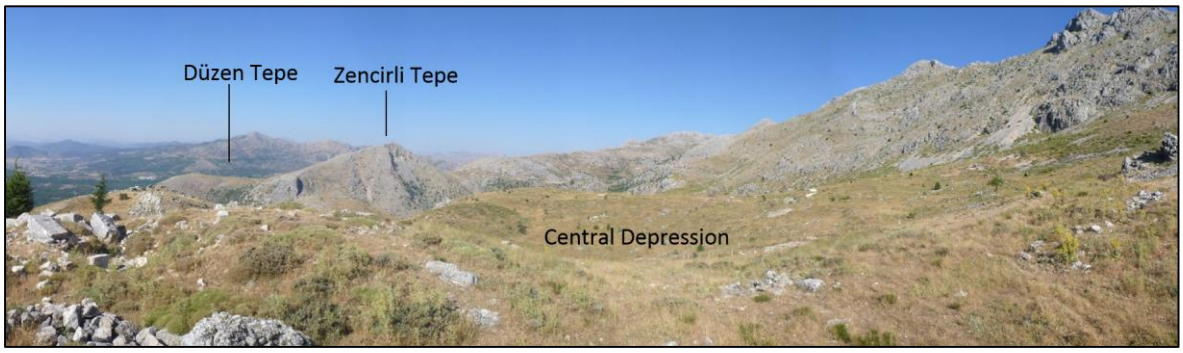

Fig. 2.2. Panoramic view over the Eastern Suburbium, as seen from the east. In the background the conical Zencirli Tepe (with the flat Düzen Tepe at its foot), the Central Depression in the middle and on the right the rocky Ağlasun Mountains.

[157] Poblome 1999a, 24.
[158] Köse 2005a, 17-22.
[159] Degryse 2003, 263 mentions a maximum slope of *c.* 50 % for the Central Depression. However, this is only the case for short sections; if you take in account the whole slope, the steepness does not exceed 25-35 %.
[160] Degryse 2003, 263; Dirix 2014, 82.
[161] Poblome *et al.* 2001, 273.
[162] Degryse 2001, 90.
[163] Vermoere 2003, 164.
[164] Poblome 1999a, 24.

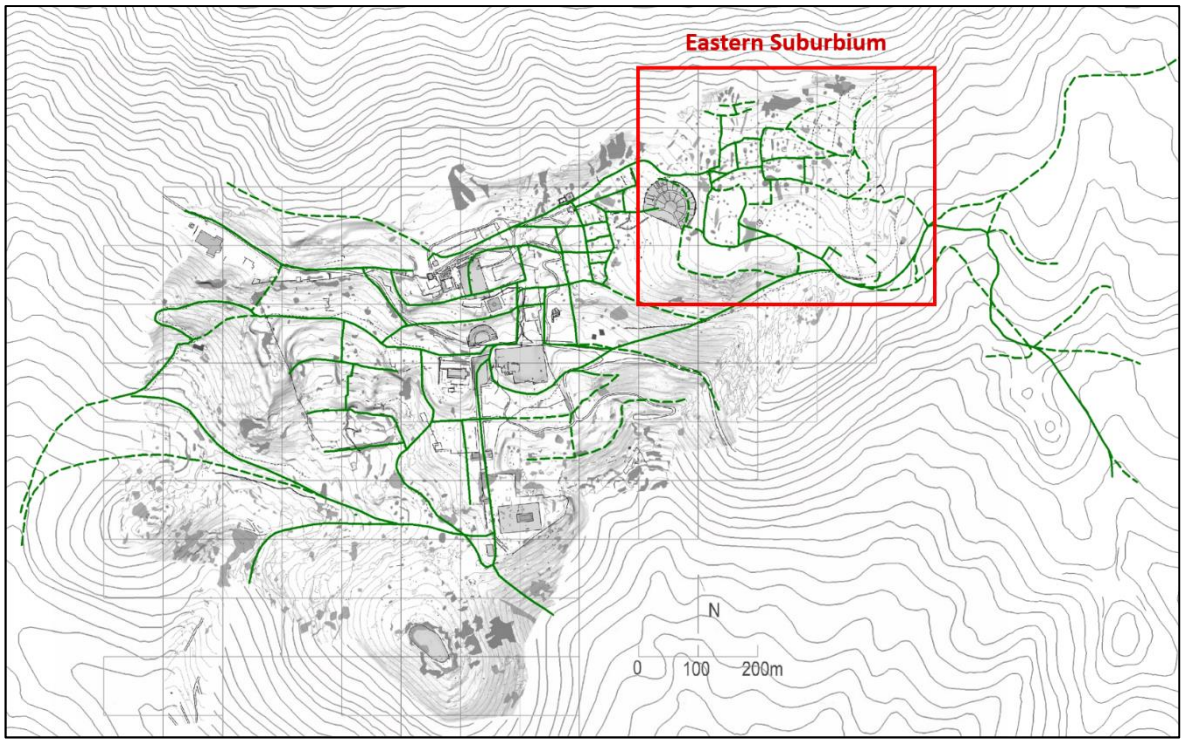

Fig. 2.3. Topographical map of the city of Sagalassos. The reconstructed street network is indicated in green (with dashed lines indicating uncertain routes and/or footpaths); the red rectangle highlights the area represented in Fig. 2.5. The road network clearly shows how the only direct access from the city centre to the Eastern Suburbium consists of a steep road scaling the narrow stretch of negotiable land north of the Theatre.

2.2.2 History of the research at the Eastern Suburbium

The suburban quarter east of Sagalassos was for the first time recognised in 1987 by Sabri Aydal, who was a member of the British Pisidia Survey Project led by Stephen Mitchell. The findings were reported briefly at the *VI. Araştırma Sonuçları Toplantısı* conference of the next year.[165] Special attention was given to this area and its topographical setting in the following year's survey campaign[166]; simultaneaously, the most notable dumps of pottery were mapped and studied at the surface by Marc Lodewijckx.[167] These early prospections established that this eastern quarter harboured an apparent mixture of tombs and industrial activity, similar to, for instance, ancient Athens and Pergamon.[168] The first scientific excavation of the Sagalassos Archaeological Research Project, a rescue excavation in collaboration with the Burdur Museum, was situated at Site D within what was then known as the Potters' Quarter (Eastern Suburbium), as part of the 1989 campaign (**Fig. 2.5** nr. 6).[169] The aims were to determine the degree of damage caused by grazing and wandering herds of sheep and goats, which were still allowed on site in those years, and the effects of natural erosion. More extensive and regular excavations started in 1990 on three different sites in Sagalassos, one of which, Site F (**Fig. 2.5** nr. 1) was situated on the northern slopes of the Potters' Quarter.[170] As the locally produced pottery series of Sagalassos remained unstudied, during the next years preference was given to continue excavating in the urban centre in order to generate a range of well-dated deposits fit for typo-chronological seriation exercises. Once that framework was

[165] "*At the eastern edge of this domestic area [a] potter's quarter has been discovered. The area is littered with hundreds of sherds, many of them misfired, as well as with slags from the ovens. There seems to have been an access to the city from this side, extending beyond the ridge which dominates the actual road leading to the site. This approach was guarded by a large Hellenistic tower in polygonal masonry, the lower part of which can still be seen*." (Mitchell & Waelkens 1988, 60).

[166] Mitchell *et al.* 1989.

[167] Unpublished; personal communication by Marc Lodewijckx.

[168] Poblome 1999a, 24.

[169] Waelkens *et al.* 1990b.

[170] Waelkens *et al.* 1991a; Waelkens *et al.* 1992; Poblome *et al.* 1993, 113.

established the time was right to return to the Potters' Quarter. In the meantime, the archaeometrical and technological study of the local pottery was continued, accumulating in monographs on the Sagalassos Red Slip Ware (SRSW)[171] and on the coarse wares[172] of Sagalassos. In 1997, an interdisciplinary research programme was launched with the aim of studying the actual remains of the local ceramic production process, expected to be organised as a grand-scale manufacture from the last quarter of the 1st century BC onwards. Over the next years, 22 exploratory soundings and 35 core drillings (boreholes) would be executed (**Fig. 2.4**).[173]

This combination of archaeological and geoarchaeological data resulted, among others, in the recognition of local clay quarrying since Classical/Hellenistic times and the understanding of the fill-sequence of the Central Depression.[174] Starting in 1998, a study of the network of streets and water infrastructure was undertaken throughout the urban area of Sagalassos, including the Potters' Quarter. In the context of this research a test trench was dug in 1999 north of the Theatre (TSN – Theatre Street North).[175] Additionally, in 1999, the archaeological survey of the urban area started, including an intensive survey of the western part of the Potters' Quarter in 2004 (see **Attachment 9**).[176] From 2000 onwards, the excavation strategy within the Potters' Quarter was changed from exploratory trenches to open area excavations. The location of a large-scale excavation on the eastern slope of the quarter was chosen because of the opportunity to document an integral pottery workshop (**Fig. 2.5** nr. 7). Over the duration of three subsequent campaigns, several features of an Early Roman Imperial pottery workshop were mapped. Most of these features, however, were partially destroyed and backfilled in function of the construction of a Mid Imperial *naiskos* tomb, and in a later state also for the lay-out of a Late Roman workshop.[177]

Important progress in the understanding of the texture of the entire quarter was made when between 2003 and 2005 geophysical survey techniques were applied in the eastern suburbs, combining high resolution remote sensing with geomorphological analyses.[178] In 2003 2D resistivity profiles across the Potters' Quarter and Eastern Residential Area gave more insight into the general stratigraphic layers.[179] Furthermore, extensive geophysical techniques (see § 2.2.3) resulted in a detailed, but difficult to interpret map covering the terrain east and west of the Theatre (see **Attachments 9 and 20**).[180] The map suggests not only the layout of the possible street network and preserved walls, but also the presence of 89 presumed pottery kilns.[181] However, both soundings and extensive excavations demonstrated that more than a millennium of human activities within the area had created a mesh of stratified remains, the complexity of which cannot be grasped by (geophysical) survey alone. In 2004, a new extensive excavation was opened centrally in the area, in order to assess the geophysical results by comparing the survey map with the situation in the field. The encountered remains were soon identified as a series of Late Roman coroplast workshops (**Fig. 2.5** nr.5). The geophysical map clearly showed this complex to be situated along the same street, but 50 m more to the west, as the above-mentioned, contemporary workshop

[171] Poblome 1999a.
[172] Degeest 2000.
[173] Degryse *et al.* 2004. Pollen sequences from these cores furthermore allowed for the reconstruction of the ancient landscape (Vermoere 2003).
[174] Poblome 1999b, 293-294; Poblome 2003, 215; Degryse 2003: 279: The high-quality clays that were used for the mass-production of Imperial times were not local, but imported from the Çanaklı Valley, 8 km south of the site.
[175] Martens 2008a and 2008b.
[176] Martens 2008, 431; Martens *et al.* 2008, 128, 147 Fig. 3.
[177] Poblome 2003, 216.
[178] Mušič *et al.* 2009, 1.
[179] Similox-Tohon *et al.* 2004.
[180] The geophysical map of this area (including the Eastern Residential Area) covers *c.* 10.5 ha, of which *c.* 7 ha east of the Theatre. This includes the area known as Eastern Suburbium, the Central Depression and some of the adjacent slopes of the Eastern Necropolis.
[181] This figure has been calculated by Rinse Willet for his 2012 PhD dissertation. The pottery kilns show up as clear, circular anomalies on the survey map. Since the geophysical results have been tested to the situation in the field, more specifically to the full-scale excavations of the east-slope workshop and coroplast workshops (see further), it was possible to abolish other possible sources causing the anomalies and thus to fine-tune the figure. For the coroplast workshops, for example, the geophysical map shows 7 kilns, while the excavation attested the presence of 11 kilns. When taking these results in account, we can reassess the geophysical results and rather suggest a total number of kilns between 135 and 140 (see § 8.3.3).

on the east slope.[182] Also in 2004 five test trenches were opened at site G (the so-called 'Gymnasion') in the southwest and most level part of the area (**Fig. 2.5** nr. 4).[183] In 2007 the church (*a priori* assumed to be a *castellum aquae*) in the northeast of the Eastern Suburbium was surveyed and mapped (**Fig. 2.5** nr. 2) and three trenches were dug to study the Eastern Aqueduct (EA).[184] The excavation of the coroplast workshops has been continued between 2008 and 2012, resulting in the identification of at least five workshops specialised in the same relief decorated product range of oil lamps, so-called *oinophoroi* and figurines. The ultimate aim of the excavations was to expose at least one complete (Late Roman) workshop in function of the research of Elizabeth Murphy.

Since 2011, new and old trenches have been (re)opened for extensive, full-scale excavations in the area that was from that point onwards referred to as the Eastern Suburbium: Site F was again excavated in 2011 and 2012[185]; PQ 1 (the *naiskos* tomb at the eastern slope) was reopened in 2012 and 2013[186]; PQ 2 (a presumed *schola* for convivial activities) has been excavated between 2011 and 2014[187] (**Fig. 2.5** nr. 3); test trenches were dug at PQ 3 (the southeast entrance to the Central Depression) in 2012[188] (**Fig. 2.5** nr. 9); PQ 4 (a large burial compound) was partially excavated in 2012[189] (**Fig. 2.5** nr. 8) and the PQ 5 church has been excavated in 2013[190] (**Fig. 2.5** nr. 2). Soil samples from the Eastern Suburbium were studied since 2011[191], on the basis of which a tomography scan of the same area was performed in 2014[192] (see **Attachment 9**).

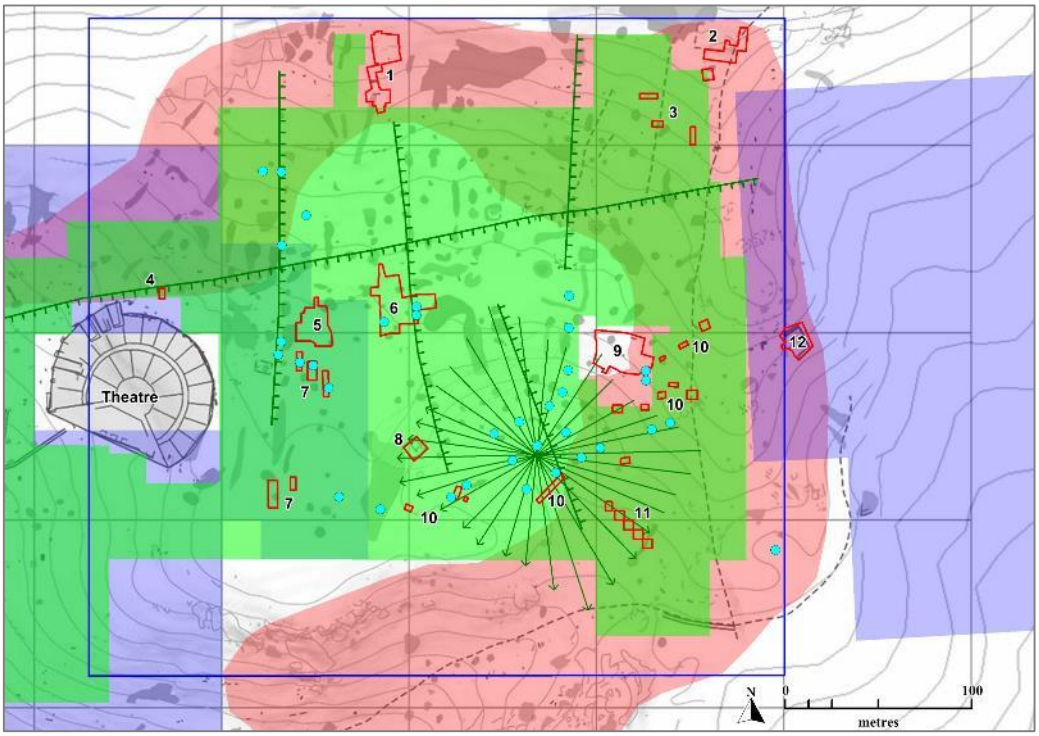

Fig. 2.4. Eastern Suburbium of Sagalassos, providing an overview of the research techniques applied throughout the area: excavations (red outline), boreholes (light green dots), field surveys (blue shaded), tomography profiles (green lines), geophysical survey (green shaded) and aerial photography (blue outline). For more detail, see Attachment 9.

[182] Murphy & Poblome 2010, 32-33.
[183] Talloen *et al.* 2004, 278-280.
[184] Martens & Vyncke 2007, 174-176.
[185] Claeys *et al.* 2012a; Claeys & Poblome 2013a. These concise preliminary reports are published in the annual *Kazı Sonuçları Toplantısı* (KST).
[186] Claeys & Poblome 2013b; Claeys & Poblome 2014.
[187] Claeys *et al.* 2012b; Van Haelst 2013; Talloen & Beaujean 2014a; Claeys forthcoming (KST).
[188] Murphy *et al.* 2013.
[189] Talloen & Poblome 2013.
[190] Talloen & Beaujean 2014b.
[191] Dirix 2011 and Dirix 2014, 81-110.
[192] Leucci & De Giorgi 2014, internal report.

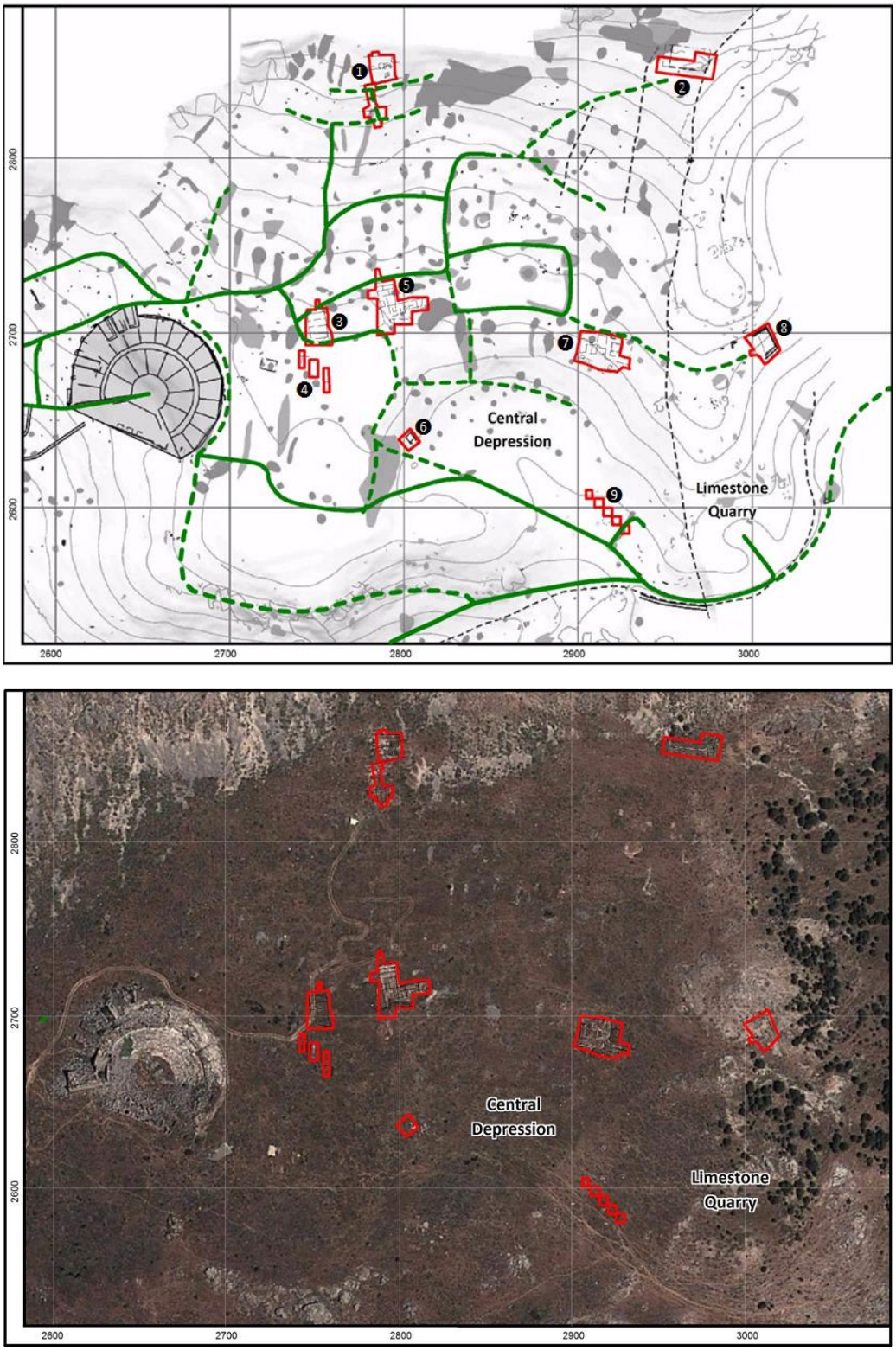

Fig. 2.5 a/b. Map of the Eastern Suburbium showing the location of the extensive excavations, executed between 1989-2014, indicated in red: ❶ Site F (tombs and workshops), excavated in 1990-91 and 2011-12; ❷ PQ 5 (church), excavated in 2013; ❸ Site PQ 2, excavated in 2011-14; ❹ Site G complex, 2004 trenches; ❺ PQ coroplast workshops, excavated in 2004 and 2008-2011; ❻ Site D (vaulted tomb), rescue excavation in 1989; ❼ PQ 1 east slope workshops and *naiskos* tomb, excavated in 1999-2001 and 2012-13; ❽ PQ 4 (burial compound), excavated in 2012; ❾ PQ 3, 2012 trenches at entrance Central Depression. The full green lines represent the attested street network; the dashed green lines represent presumed streets. For more detail on the individual sites, see Attachments 1-9.

2.2.3 Methodology of the research at the Eastern Suburbium

Introduction

In **Part 1** of this thesis we position our research topic into the field of studies on ancient *suburbia*/*proasteia*, by presenting the case study and justifying its identification as (one aspect of) the research field. This mainly consisted of a review of both modern scholarly studies as well as ancient references, which are inextricably linked. This allowed us to 'catalogue' the Eastern Suburbium's particular characteristics within an existing framework of research, which for the Eastern Mediterranean is yet particularly meagre.

The methodology behind **Part 2** (Ch. 1-3) of this thesis mainly consisted of interpreting, cross-referencing and presenting in a uniform and legible manner the available data that has been gathered from the Eastern Suburbium since the start of the scientific research at Sagalassos. The outlines of the Eastern Suburbium are geographically defined (see above). The Eastern Necropolis, on the other hand, extends further towards the south and the suburban Elmalı Pınar and Gökpınar areas also fall outside of this core area. Since several aspects of these regions were relevant and valid for our study, they were included as well. Nevertheless, less information is available for these more thinly occupied regions. Data for the Eastern Suburbium were procured by excavations and test trenches; core drillings; field, geophysical and geochemical surveys; aerial photography; geological and geomorphological research and a variety of additional studies on arte- and ecofacts (see further). In addition, between 2011 and 2015 complementary research has been executed in the Eastern Suburbium and on its find material in order to be able to broaden our perspective on the area and to provide answers to specific questions. Our information on the southern stretches of the Eastern Necropolis, Elmalı Pınar and Gökpınar areas mainly consisted of field survey data.
We chose to represent the data in Part 2 in a chronological overview (as opposed to a functional or geographical overview). The chronological information authorised a division into six distinguishable periods (Ch. 4-9), with each caesura between periods justified by the apparent changes in the archaeological record (see **Attachment 23 a-e**). The absolute dates of individual contexts are mainly based on the well-documented chronology of the Sagalassos Red Slip Ware (Phases 1-9, see **Tables A-B** in the General Remarks) and to a lesser extent on coin finds (see for example § 10.1.5) and carbon dating (see for example § 7.4.7). Within each chapter, the data are subdivided according to their functional purpose (especially infrastructure, artisanal activities, funerary culture and communal presence) and to a lesser extent according to their geographical position. The study area is relatively small, but where relevant we refer to geographical distinguishable areas within the *proasteion*: *e.g.* the southwestern monumental quarter, the Eastern Necropolis, the potters' quarter, the northern terraces, the Central Depression, *etc.*

Part 3 builds further upon the data presented in Part 2, with the aim to present some themes that transcend the artificial chronological and functional subdivisions. This is the case for the development and decline of the area as a *proasteion* (see Ch. 10) and for an assessment of the issues and opportunities associated with a suburban setting (see Ch. 11).

The methodology behind the available data

Extensive **excavations and test trenches** (**Figs. 2.4/2.5**) at the site comprise site D (excavated in 1989), site F (1990-1991 and 2011-2012), site G (2004), Theatre Street North (TSN) (1999), UA (2007), PQ coroplast workshops (2004, 2008-2009 and 2011), PQ 1 east-slope workshops (2000-2002 and 2012-2013), PQ 2 (2011-2014 and planned for 2016), PQ 3 (2012), PQ 4 (2012 and planned for 2016) and PQ 5 (2013). These excavations were complemented by a series of test trenches dug at various locations along and throughout the Central Depression (1997-1999), which would lead to the extensive excavation of site PQ 1. The total area covered by these excavations and test trenches amounts to *c.* 3,035 m², or *c.* 3 % of the estimated built-up area of the Eastern Suburbium (not including the southern stretches of the Eastern Necropolis). Each excavation is supervised by

one archaeologist and one or two field assistants (either archaeologists or archaeology students). The responsible archaeologists were: Selçuk Başer (site D), Ali Harmankaya (site F 1990) and Burcu Arıkan (site F 1991) of the Burdur Museum; Elizabeth Murphy of Brown University (PQ 2008-2009 and 2011, PQ 3); Rinse Willet from the University of Leiden (PQ 2008); Sven van Haelst from the Flemish Heritage Agency (PQ 2 2012); Marc Waelkens (site D, site F 1990), Ann Hasendonckx (site F 1991), Jeroen Poblome (test trenches Central Depression, PQ 1), Femke Martens (TSN and UA), Peter Talloen (site G, PQ 2004, PQ 2 2013, PQ 4, PQ 5) and Johan Claeys (site F 2011-2012, PQ 1 2012-2013, PQ 2 2011 and 2014) from the University of Leuven.
Excavations took place during the field campaigns during the summer months, which lasted maximum 3 months. The archaeological documentation of each excavation campaign is recorded by the responsible archaeologist(s) in an internal excavation report. Since most of the above excavations have not been published in full, the internal reports formed an important backbone for this thesis. It is not our intention here to describe the excavation strategies applied at Sagalassos or the conservation and depository trajectory of the finds. It should suffice to point out that the available data made it possible to reconstruct the stratigraphy, features and finds of each site in detail, based upon the written reports, the photographical evidence, the maps and the deposited finds (both ecofacts and artefacts).

In 1997-1998 a series of **core drillings** with a Ramguts percussion drill were executed throughout the area (**Fig. 2.4**) under supervision of Patrick Degryse, especially concentrated on the Central Depression and its surrounding slopes (22 cores), on the western edge of the potters' quarter (12 cores) and in the southeast limestone quarry (1 core). In the Central Depression, drillings could reach maximum depths of *c.* 6.5 m. These cores were intended to complement the data retrieved from the Central Depression test trenches, with the ultimate aim to study all aspects of the pottery production craft, including the clay quarrying in the Central Depression. The cores provided additional information on the geological composition of the subsoil, on the bedrock topography and on the archaeological stratification, resulting a.o. in a preliminary reconstruction of the terraced clay quarry.[193] Moreover, pollen sequences retrieved from the cores could be used to reconstruct the historical landscape (see further).

Several **archaeological field surveys** covered parts of the Eastern Suburbium although no intensive survey was applied comprehensively throughout (**Fig. 2.4)**. Early surveys led to the identification of outcropping dumps of pottery[194] and the detailed mapping of the local topography. Systematic surveys within the city, however, started in 1999 under the supervision of respectively Femke Martens.[195] Since there was no comparable work in Turkey to base the survey strategies upon, the research initially followed the example of the Boeotia survey project.[196] The particular conditions in Sagalassos (low find density, unploughed character, steep slopes, *etc.*), however, necessitated the development of a site-specific procedure which was fine-tuned over the first three years. Between 2001 and 2005 *c.* 10 ha of the urban area was surveyed with a full coverage technique, based on a grid of squares measuring 20 m by 20 m, which were walked with a 2 m interval. The survey of the *chora* of Sagalassos started out with a reconnaissance survey between 1993 and 1999, which would form the basis for an intensive survey (1999-2006) led by Hannelore Vanhaverbeke in the primary catchment area of the settlement (the *suburbia* in the second acceptation, see § 1.1.1). The suburban survey strategy went through a similar phase of trial and error; eventually it was decided to work with a grid of 50 m by 50 m squares, which were walked with a 6-7 m interval. Field surveys in Sagalassos involved per square the assessment of the density of surface finds (through counting), the attribution of a visibility rating (using standardized classes), the collection of all surface finds (except for building ceramics) and the mapping of all surface architecture with total station. These data were computerized and analysed in the desktop mapping program Mapinfo.[197]

[193] PQ 1998 and 1999 internal report on the sondages and drillings by Jeroen Poblome.
[194] By Marc Lodewijckx, unpublished results.
[195] Martens 2004; 2005.
[196] Bintliff & Snodgrass 1985.
[197] For a more detailed overview of the methodological issues and biases involved in the urban survey strategy, see Martens *et al.* 2008, 127-135; Martens 2012, 85-87.

Only the area of the site G complex, in the southwestern quarter of the Eastern Suburbium, was included in the urban survey (27 squares of 20 m by 20 m, for a total of 1,08 ha); no other parts of the Eastern Suburbium were covered. The suburban survey covered large parts of Elmalı Pınar (58 squares of 50 m by 50 m, for a total of 14.5 ha) and Gökpınar (60 squares of 50 m by 50 m, for a total of 16 ha).
The visual remains of the *necropoleis* of Sagalassos were surveyed, mapped, described and photographed by Veli Köse between 1994 and 2001, which led to an exhaustive typological catalogue including all (visible) funerary monuments, the basis for his doctoral dissertation and eventually the *Nekropolen und Grabdenkmäler in Sagalassos* (SEMA 7)[198] publication. It is obvious that field survey work inevitably led to an emphasis on monumental funerary monuments, and to an underrepresentation of other types of (buried) burials (see esp. § 5.4.1 and § 7.4.1). Köse divided the *necropoleis* of Sagalassos into four groups, of which the Eastern Necropolis overlaps to a large extent with the Eastern Suburbium.
Since there were large remaining gaps left uncovered by any systematic field survey strategy, additional surveys were executed in the field by Johan Claeys in 2013. These surveys mainly focused on the mapping and documentation of the visual architectural remains. Since these are relatively few in comparison with other densely built parts of the city/*proasteion*, we also paid attention to typical overgrowth known to archaeological features.

An uninterrupted zone of *c.* 12 ha was covered by **geophysical surveys** in the eastern part of the city, of which *c.* 7 ha within the perimeters of the Eastern Suburbium (**Fig. 2.4**), under supervision of Branko Mušič from the University of Ljubljana. Various geophysical techniques were applied throughout the Eastern Suburbium, in compliance with the field conditions of each specific zone and building upon previous results from both surveys and excavations. The applied geophysical techniques included the magnetic method, supported by measurements of the apparent magnetic susceptibility of samples of soil and stone construction material, the ground penetrating radar (GPR) method (using 200, 400 and 500 MHz antennas) and electromagnetic induction, picking up measurements of the electric conductivity and magnetic susceptibility of different materials. Subsequent data processing involved the reduction of the background noise caused by the earth's magnetic field and by the complex geology of the site. The most interesting and archaeologically valuable results were obtained mainly through the combination of magnetic and GPR methods. The former technique picked up the induced magnetization typical for stone built walls and the strong thermoremanent magnetization of clay-built kilns, furnaces, *etc.* GPR was originally introduced to resolve specific research questions, *i.c.* concerning the reconstruction of the water and street network and concerning the analysis of complex building remains.[199]
Geoelectric resistivity surveys applying two-dimensional imaging were carried out in the Eastern Suburbium by Dominique Similox-Tohon and Gert Verstraeten in respectively 2003 and 2006 (**Fig. 2.4**). They used Schlumberger-Wenner's electrode layout (WSC), which is moderately sensitive to both horizontal and vertical structures. The WSC layout proved to be the best compromise between the horizontal and vertical resolution. These methods have been used as a archaeoseismological tool to detect the presence of an active east-west oriented fault underneath Sagalassos, passing through the Eastern Suburbium.[200] In 2014 electrical resistivity tomography (ERT) and self potential (SP) methods were applied by Giovanni Leucci and Lara de Giorgi from the Institute for Archaeological and Monumental Heritage (IBAM) to reconstruct the geology of the Central Depression. Geoelectrical measurements are used to determine the specific electrical resistivity of the ground. While this type of mapping is standard practice in flat earth conditions, for the topographical conditions of the Central Depression it was necessary to introduce an unstructured tetrahedral mesh which allows adaptation to arbitrary model structures. Thus the geophysical prospection of archaeological objects characterized by a rough terrain, like the landfill of tells and slag heaps, becomes possible. The purpose of the SP method is to measure

[198] Köse 2005a.
[199] For a more detailed overview and description of the different geophysical techniques applied in the Eastern Suburbium, see Mušič *et al.* 2009, s.l; Martens *et al.* 2012, 87-89.
[200] Mušič *et al.* 2009, s.l. For a more detailed description of the methodology, see Similox-Tohon 2004, 5-7.

variations in natural time-variable potentials, of which there are two types: electrokinetic and electrochemical. Electrokinetic phenomena are the main generator of potential anomalies in archaeological areas.[201]

In 2013 the whole Eastern Suburbium was documented by **aerial photography** (**Fig. 2.4**). The camera was attached to a zeppelin (ensuring an optimal orthogonal position) and overlapping pictures were taken from *c.* 50 m altitude in rows set *c.* 30 m apart and additionally from higher altitudes. Highly visible reference points were distributed at regular intervals throughout the quarter, which were measured in by means of a GPS. The individual pictures were afterwards georeferenced with Agisoft PhotoScan software and merged into individual orthophotos per site (see **Attachments 1-8**) as well as into one encompassing orthophoto (see **Attachment 19)** by Joeri Theelen. The former orthopohotos would make it possible to illustrate the excavations, to compare and correct maps and to reevaluate existing interpretations. The overview orthophoto made it possible to discern natural and human-made features that were illegible or not interpretable in the field. Since several excavations were already partially covered or backfilled by the time of the 2013 photography (as was the case for site F and the PQ coroplast workshops), we had to rely on older, not georeferenced aerial photographs. Georeferenced orthophotography was also employed since 2012, on a smaller scale, in order to document specific features and contexts. This was first tested at site F in 2012 (see *e.g.* **Attachment 21**) and used consistently throughout the excavation of site PQ 2 in 2014 (see *e.g.* **Figs. 7.63-7.64**).

This thesis is also substantiated by the **conservation work**[202] and a wide variety of **specialist studies**[203], for which the work done on ceramics, metal, coins, glass, faunal and floral remains were particularly indispensable. Furthermore, the palynological study of drilling cores from the Central Depression, done by Marleen Vermoere, provided information on the ancient vegetation in the immediate surroundings.[204] The geochemical survey of the area, which formed part of the doctoral research by Katrijn Dirix, made it possible to reassess results from excavations and surveys.[205] The anthropological studies of both the cremations and inhumations have been done by Christine Charlier[206], Elizabeth Smits, François-Xavier Ricaut[207] and Katrien Van de Vijver. Analyses on the aDNA of the Sagalassos population were conducted by Els Jehaes in 1996-1997 and more recently by Claudio Ottoni, who is working on both new samples as well as the samples from Jehaes.[208] Carbon datings on human remains from site F were executed by Royal Institute for Cultural Heritage in Brussels, under supervision of Mark Van Strydonck (additional datings are planned for the near future).

Research Biases

Despite this vast amount of information, there are inevitably remaining knowledge gaps. Furthermore, each applied research technique is subjected to an inherent set of biases:

- Arrchaeological excavations only covered *c.* 3 % of the Eastern Suburbium (see above) and were not executed in the Elmalıpınar and Gökpınar areas. Considering the fact that a systematic research by test trenching (in Western Europe[209]) is supposed to cover at least 5 % of the area under research, this

[201] Leucci & De Giorgi 2014, internal report.
[202] Especially Emine Kocak, Nerina De Silva, Başak Kıroğlu and Ansje Cools.
[203] Especially Jeroen Poblome, Marc Lodewijckx, Roland Degeest, Nalan Fırat, Philip Bes and Marc van der Enden for ceramical studies; Nathalie Kellens and Sevgi Gerçek for metal studies; Simonne Scheers, Fran Stroobants and Johan Van Heesch for numismatical studies; Veerle Lauwers for glass studies; Bea De Cupere, Wim Van Neer and Sophie Thys for the study of animal bone and Elena Marinova-Wolff for the study of floral remains.
[204] Vermoere 2003.
[205] Dirix 2013a; 2013b; 2014.
[206] Charlier 1993a; 1993b; 1997.
[207] Ricaut & Waelkens 2008.
[208] Ottoni *et al.* 2011; accepted.
[209] Research by test trenching in Great Britain used to have a sample size of 2 %, but this was increased to 5 %; test trenching in France uses configurations that cover either 5 % or 10 % of the terrain; test trenching strategies cover between 7 % and 10

coverage is relatively low. Nevertheless, we have to take in account the fact that test trenching is generally applied to areas of which no other data are available. This is obviously not the case for the Eastern Suburbium, where due to the knowledge gathered by surveys (see further) and test trenching (the original site G trench and the various trenches throughout the Central Depression) the locations of the extensive excavations could be pinpointed to answer specific research questions. Nevertheless, this created an additional bias due to the inevitable prepossession of the research questions themselves. Ideally, the information we possess could be complemented with a series of test trenches dug at regular intervals throughout the Eastern Suburbium.

- Eventually, the whole Eastern Suburbium and large parts of the Elmalıpınar and Gökpınar areas were covered by archaeological field surveys, but only 10 % of the Eastern Suburbium was covered by a systematic, intensive survey (see above). Survey results, moreover, are prone to their own set of biases. Particular issues inherent to Sagalassos are the steepness of the terrain (prone to weathering and erosion), the observations that most areas have not been ploughed (resulting in an overrepresentation of the final occupational periods) and the low density of the finds (complicating diagnostic evidencing).[210]
- The geophysical surveys could not cover the northern slopes of the Eastern Suburbium, while the densely built-up area clearly extends to these terraced parts as well. In the Elmalı Pınar and Gökpınar area only the location of the presumed metal workshops were covered. While the geophysical surveys resulted in remarkably detailed maps (considering the difficulties involving especially the geological complexity of the subsoil, the roughness of the terrain and the sedimentation thickness), they cannot represent the full complexity of the archaeological record and they do not provide a chronological framework in which to position the results.
- Geomorphological surveys, combined with satellite imagery, established how post-occupational erosional processes have covered most of the Eastern Suburbium[211] (also evidenced by surveys and excavations in the field) as well as parts of the western slopes and the valley floor of the Elmalı Pınar area.[212] Post-occupational mass movements have especially limited possible observations of architectural and other remains during surveys along the terraces of the northern part of the Eastern Suburbium (**Fig. 10.8**).
- Most of the features and architectural remains encountered within the Eastern Suburbium were not meant to withstand the centuries (in contrast to some of the monumental architecture of the city centre and some of the monumental (ashlar-built) tombs). This would imply that centuries of construction, dismantling and renovation in the heart of the Eastern Suburbium has left an undue emphasis on the more recent architectural remains, while the oldest traces are in many cases erased from the archaeological record or obscured by later interventions.

Despite these above observations on the limitations and biases involved in the research – and in fact due to their acknowledgment and adequate implication – we believe that the available data allowed us to draw up a convincing and comprehensive case study. The research is obviously welcoming and actually inviting future research.

% of the terrain in the Netherlands and generally 12 % of the terrain in Flanders (Onderzoeksbalans Onroerend Erfgoed Vlaanderen, § 12.2.6).

[210] See a.o. Martens *et al.* 2005, 127-135; Vanhaverbeke *et al.* 2007, 614; Martens *et al.* 2012, 85-87 for the complications involved in field survey strategies.

[211] De Laet 2007.

[212] Personal communication by Patrick Degryse.

In this chapter we wish to assess the nature of the relationship between the *proasteion*, the city it belongs to and the surrounding Hinterland. As already mentioned in § 1.3, dependency from an urban centre has been established as one of the characteristics of a suburban development in Antiquity. The present dissertation states as a matter of fact that the *proasteion* can be regarded as a distinct entity within the urban texture, in its appreciation both meaningful to the modern scholar, but also to the ancients. This has been established for the concepts '*suburbium*' and '*proasteion*' in general in the preceding paragraphs, but has to be confirmed for the specific case under study: the Eastern Suburbium of Sagalassos. Can we distinguish this area from the rest of the city and from the surrounding territory? If so, can we reconstruct the actual borders from the information we have at hand? Were these borders also conceived as meaningful by the ancient inhabitants of Sagalassos? If so, what led them to subdivide the available space into entities with different repercussions and what exactly were the repercussions of this divide?

Some of these questions can only be answered in detail in the conclusions of this thesis. It should suffice here to establish that there was indeed a division of space in ancient times, which can still be – at least partially – reconstructed by the present-day scholar. The comprehensive approach of the Sagalassos Project in the study of town and territory allows us to rely on a significant set of data for every relevant aspect for this discussion: city centre, residential areas, *proasteion*, *necropoleis*, suburban *villae*, *Hinterland*, *etc.* are all to some extent the subject of ongoing research projects. The focus is ever shifting towards aspects that have been underexposed and research questions that require answering. Recent campaigns, for example, provided us with additional data on the lesser known Hellenistic origins and post-earthquake developments of the site. As a result we have the opportunity to study the use of space throughout different time periods of Sagalassos' history.

In the next paragraphs we will try to delineate different spatial zones within the territory, focusing on the position of the Eastern Suburbium within that framework. The territory is divided into these different zones by both factual and intangible boundaries, both of which might be either absolute or permeable in nature, but all of which held meaning for the contemporary city dwellers.

3.1 Boundary markers: a ready set of indicators?

In order to understand the urban dynamics of the '*polis*' Sagalassos, the relationship between Sagalassos as a city centre and its surrounding *χώρα*[213] (*chora*, '*territorium*' in Latin, see **Fig. 1.2**) should be defined. Penelope Goodman argues that the contrast city-countryside was a fundamental and widespread idea in the minds of the ancient members of society.[214] In the following paragraphs we wish to establish to which extend we can apply the theoretical framework set forth by Goodman in *The Roman City and its Periphery* on the Sagalassos case study.

[213] Gert Audring, in his study on proast(e)ia in Archaic times, recognises four distinct zones of the *chora*: 1) the land in immediate proximity to the urban settlement (the proper *proasteion*); 2) the part of the countryside that serves agricultural purposes (*pedion* or *mesogaia*); 3) the less accessible parts of the countryside (*eschatia(i)*); and 4) the mountainous area (*oros, ta orea*) and/or the coastal range (*paralia, ta parathalassia*) (Audring 1981, 216). However, as pointed out in § 1.1-1.2, '*proasteion*' caught on to be used more and more for the second zone of the '*chora*' as well, which made it less distinguishable from the term '*suburbium*'.

[214] "*A well-educated member of the metropolitan elite at Rome, then, or a provincial who was conscious of metropolitan Roman culture and wished to align himself with it, should have been familiar with an ideology of city and country which included several basic elements. First, he should have been aware of a sharp antithesis between city and country, particularly on moral grounds. Second, he should have understood that the cities used as administrative centres by Rome's subject communities were potent symbols of the status of those communities, and especially of their membership of the wider Roman World. And finally, he should have been aware of the importance of the physical fabric of the city, and especially its monumental public buildings, in expressing a community's* urbanitas *and, consequently, its* romanitas." (Goodman 2007, 11).

It is worthwhile to determine first and foremost into which kind of settlement culture Sagalassos came into being. The ancient Greek *polis* ('city-state'[215]) culture had a vast influence over the eastern Mediterranean world. In Archaic-Classical times some 1500 city-states existed in Greece, Asia Minor and along the coasts of the Mediterranean and the Black Sea and hundreds more were founded in Asia Minor and the Near East in Early Hellenistic Age (*c.* 330-189 BC). A host of local city-state cultures may also have bloomed in other parts of Anatolia before the whole region became hellenised. Such a culture of self-governing city-states can for example be recognized in Lykia in the Dynastic Period (*c.* 550 to 330 BC). The existing city-states of Anatolia were turned into *poleis*.[216] As a consequence it can be deduced that a city like Sagalassos, even in inland Pisidia, originated into a world familiar with the city-state culture and could easily be incorporated into the Greek *polis* system. As mentioned above, Arrian referred to Sagalassos at the time of the Macedonian conquests' as a '*polis*', but he might have used this term in order to overplay the importance of Classical Sagalassos by using terminology known to his contemporaries. Neighbouring Düzen Tepe, while larger and more populous, would for example have failed in several aspects to qualify as a '*polis*'. From (Mid) Hellenistic times onwards, however, there is every indication that the town developed into a hellenised city-state, with its surrounding *chora*, in the full extent of the meaning of the term '*polis*' (see § 1.2).

As we have seen above (see § 1.1.2), ancient authors in general and Roman legislation in particular refer to the existence of a clear-cut division between city and *Hinterland*; a division that is in many ways visually distinguishable and that has legal implications. The visual factor can sometimes be read from archaeological data, since the transition from city to country was often indicated by clear physical boundary markers[217]:

- city walls (as a symbol of urban status, showing its command over resources and manpower);
- monumental arches (not necessarily coinciding with city fortifications);
- *cippi* (small pillar-shaped landmark, often with inscription, indicating distances or borders);
- edges of an orthogonal street layout[218], changes in the orientation of major roads; changes in width or type of pavement;
- temples and tombs on symbolic/strategic locations;
- natural features (rivers, marshes, coastlines, mountains, *etc.*).

In contrast to the criteria for the definition of a city, this is not a list of requirements that need to be fulfilled, but rather a list of optional features that one might encounter. This transition between city and *Hinterland* was to some extent permeable and the border was certainly adaptable. When cities grew beyond their initially planned layout, for example, borders could be moved in order to incorporate the newly created urban texture in the city: new city walls, new arches, removal of the *cippi*, *etc.* Even natural features could to some extent be modifiable, as marshes could be drained, rivers canalised and depressions filled.[219]

Interests in distinguishing between the urban and the rural only partly lay in defensive practicalities. The desire to ensure the favour of the gods by marking out a sacred space also must have played its role. *Urbanitas* was an important symbol of the civilized and semi-autonomous status of the city and the role of the urban fabric lay in

[215] We will use the term 'city-state' as an alternative for *polis*, bearing in mind the inconsistencies that come with this modern translation (see also Footnote 82).

[216] Hansen 2000, 141-187; Marksteiner 2002, 57-72.

[217] This list is based on observations made by Penelope Goodman (2007, 11-12, 65), complemented with Xavier Lafon's observations for the city of Rome specifically (Lafon 2001, 201-204).

[218] This criterion can not always be applied. Marina Castoldi observed, for example, how most *suburbia* of the Greek colonies in Sicilia were organized along an orthogonal street network (Castoldi 2000, esp. 32-33).

[219] See for example Rome, where marshes were successfully drained between the different hills. One such marsh would develop into the Forum Boarium, which, incidentally, would lose its original function as animal market – a function probably deemed unfit within the *pomerium* – as the city grew beyond its first fortification walls. The new Aurelian walls would circumvent a wider area and (a) new animal market(s) was (were) allocated outside the extended *pomerium* (Frayn 1993, 146-148; Howe 2014, 149-150).

displaying this *urbanitas* to others.[220] The latter argument, however, may play a bigger role in the 'barbarous' and 'alien' Gallia and especially in Germania – where "*none of the German nations inhabited cities*"[221] (see § 1.2) − while the peoples from the hellenised East were clearly accustomed to the concept of metro*poleis*, *poleis* and subsequently the concept of *urbanitas* which was not exclusive to Roman cities.

3.2 Boundaries and transitional zones in the Sagalassos territory

3.2.1 Boundary markers in and around Sagalassos

It is worthwhile to check the case study of Sagalassos itself for the above-mentioned physical markers of the transition between city and *Hinterland*. Sagalassos, from Late Hellenistic times onwards, consisted of a walled centre with a mainly monumental public eastern part and a residential western quarter (**Fig. 1.4**). The fortifications might not have been maintained in their entirety throughout the whole history of the city[222] and it is clear that as early as Late Hellenistic – but especially since Early Roman Imperial times – the city grew far beyond these initial boundaries (*e.g.* Late Hellenistic Fountain House northeast of the city centre). However, the perimeter of the ancient walls was never adapted and the better-documented Late Roman walls apparently followed to a large extent the same outline as their Hellenistic forbears.[223]

The location of several monumental arches within the town itself is known, and the location of several city gates can be deduced from the road network (**Figs. 3.3-3.4**). More modest markers as *cippi* could have served the same purpose, but would have been less determining in the minds of the ancient inhabitants and archaeologically more difficult to demonstrate. While several monumental arches have by now been reconstructed by anastylosis, only one gate of the city walls has been excavated. The most southern gate, on the Colonnaded Street, could be dated back to (Late) Hellenistic times, but was intensively altered in Early Byzantine times in order to close off the *kastron* (fortified citadel) on the promontory with the Temple dedicated to Antoninus Pius.[224] The gates of the city walls serve the same purpose as the walls themselves in delineating a specific area. The honorific arches erected intramural, however, can be considered as important indicators of a more intricate division of the landscape. When arches were situated extramural, they could be interpreted as indicating that the sacred urban space extended beyond the city walls. However, in Sagalassos the known arches are all located within the wall's perimeter, rather suggesting that they were intended to indicate the transition between the monumental heart of the city and the residential/commercial quarters. The known arches of Sagalassos, for example, were located at the different entrances to the *agorai* and at the (main) entrance to the *palaestra* of the Imperial Baths.

The parameter of the orthogonal street grid raises some complications for the city of Sagalassos. Obviously, the specific characteristics of the local topography, with its general remoteness (not necessarily a negative factor in the settlement pattern choices of Classical times), steep hillsides and rocky outcrops, make it clear that it is almost impossible and in fact undesirable to impose an orthogonal grid onto this area. This can, for example, be observed in the rather chaotic nature of the Western Residential Quarter within the city walls.[225] Nevertheless,

[220] Goodman 2007, 12.

[221] Tacitus *Germania*, 16 (translation revised by E. Brooks Jr. in 2013, Project Gutenberg).

[222] The most recent results from the Fortifications (FO) site near to the Stadion suggest that at least part of the city walls of Sagalassos had undergone restoration works at various periods throughout the history of the city, including Roman Imperial and Late Roman times. However, this observation might not be applicable one on one to all other sections of the fortifications. Especially the eastern stretch of the wall appears to have been incorporated into the sprawling Eastern Residential Quarter; the consequential absence of any buffer zone would have rendered it inefficient for defensive purposes. Further research on the subject is planned in the upcoming excavation campaigns.

[223] Loots *et al.* 2000; Waelkens *et al.* 2006, 209-210, 217-218. The exception is the peninsula with the Temple dedicated to Antoninus Pius which became a separate, walled *kastron*. This, however, might be a later, Byzantine intervention.

[224] Jacobs & Waelkens 2013, 223-225.

[225] This area was covered by intensive survey by the team of Femke Martens (University of Leuven) in 2001 and 2003 and between 2008 and 2010 the architectural remains were mapped in addition to geophysical survey carried out by the team of Branko Mušič (University of Ljubljana). Results have not been published, but internal reports conclude that "*the planning of*

the urban planners went through great efforts to shape both the upper and lower monumental centres into a regularly aligned pattern (**Fig. 3.4**). The main monuments of the Upper City, including the buildings aligned along the street to the Library and Theatre, follow the NNW-SSE orientation of the Bouleuterion on the Upper Agora. The axis of the southern Lower City is shifted slightly with respect to the northern half of the city, resulting in a N-S oriented axis. Here the Apollo Klarios temple stands out as a landmark for the streets and monuments. The Odeion on the one hand and the Temple dedicated to Antoninus Pius on the other hand are the southernmost monuments aligned respectively according to the Upper City's and the Lower City's axis. Consequently, the urban street network within the city walls cannot be considered as strictly uniform, but obvious efforts were undertaken to create a sense of regularity and cohesiveness.

A large part of the residential quarter east of the city walls appears to follow the orientation of the monumental Lower City (**Fig. 3.3**). When considering the local topography, it becomes clear that from a practical mindset a different orientation would have been favourable; deliberate planning thus seems to have played its part. We have to bear in mind that the city walls were not fully functional throughout the city's history and that they even might have been partially dismantled after Hellenistic times. Thus the division between the monumental centre and the Eastern Residential Quarter might no longer have been very distinct throughout Imperial times, when building activities reached their height. The eastern residential area partially extends over the steep slopes below the Theatre and even though this zone is both in distance and location more close to the Upper City, it overlooks the Lower City. We suggest that this visual relationship plays an important role here, since there is no visual connection with the Upper City, interrupted as it is by the slope leading up to the Upper Agora and its adjacent monuments. Geophysical surveys[226] and excavations[227] reveal that the more regular parts of the Eastern Residential Quarter consist of large (elite) housing, while the steeper east and southeastern slopes are occupied by smaller units, in a less regular pattern. The Eastern Suburbium itself developed in a more organic way, along more narrow, only partially paved and winding streets.

The (ir)regularity of city planning, and more specifically the street grid, certainly should be appreciated as defining boundaries between spaces. All the monumental buildings are oriented according to certain defining landmarks.[228] Moreover, parts of the city *extra muros* that did not necessarily fall under the jurisdiction of official city planners, appear to be laid out in order to follow the orientation of the monumental centre. This is, for example, the case for the Urban Mansion (site DA), the residence of a Late Roman wealthy citizen, which itself emanated from the foundations of at least two Early Roman Imperial elite buildings.[229] Both the original construction phase as well as the later adaptation to the palatial mansion followed the orientation of the monumental centre, which might be regarded as a claim on partaking among these monuments, on belonging to the urban centre and subsequently profiting from the associated savour of *urbanitas*.

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the area seemed primarily directed by the topographical situation and the housing blocks seemed to have been preferably built perpendicular to the contour lines and terraces."

[226] Mušič *et al.* 2009.

[227] The Domestic Area (from 2006 onwards referred to as 'Urban Mansion') excavations cover a large 'palatial' mansion located central within this quarter, close tot he city walls. The site has been excavated in 1995 and 1996 (under supervision of Marc Waelkens) and uninterruptedly between 1998 and 2013 (under supervision of Inge Uytterhoeven).

[228] Though the Theatre of Sagalassos follows an irregular orientation, it is also aligned according to specific landmarks. It is obvious that the natural slope was not employed to its full potential. The orientation of the theatre is slightly shifted from the ideal angle, which meant that extensive substructures were needed at the western extremities of the building. This observation, in combination with the fact that they limited the height of the *scaenae frons* to a single storey, points in the direction of the creation of an intentional and direct view of the Alexander Hill and the central area of the Classical/Hellenistic village on Düzen Tepe beyond, as the crow flies 1.8 km to the south-southwest. The Alexander hill, also represented on the local civic coinage, is according to tradition the location of the battle in which Alexander the Great conquered the city. And the large settlement on Düzen Tepe, which was already abandoned at the time the first theatre was built on the exact spot, is considered to be the origin of at least a part of the population of Sagalassos. Both locations thus play an important part in the city's identity, which might be explaining the reason behind the irregularities in the orientation of the theatre and the layout of the *scaenae frons*.

[229] Uytterhoeven *et al.* 2010, 295-297.

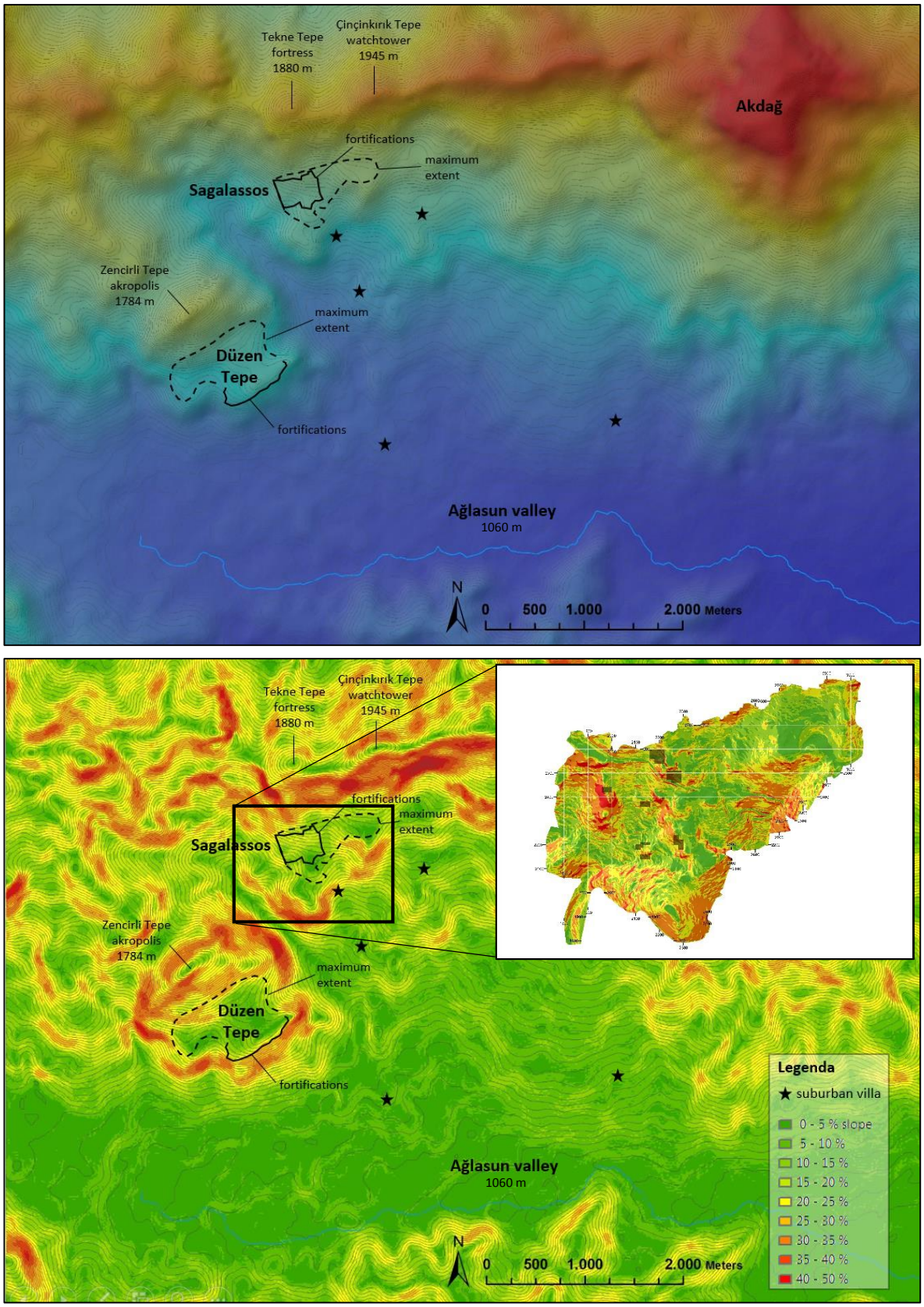


Fig. 3.1 a/b. Maps representing respectively the topography and slope percentages of the area surrounding Sagalassos and Düzen Tepe. The maps clearly show how Sagalassos and Düzen Tepe are located at similar altitudes (Düzen Tepe somewhat lower) and how in both cases the location is relatively easily defendable, with steep slopes on all sides and with *acropoleis* on respectively Zencirli Tepe (in the case of the Düzen Tepe site) and on top of the Ağlasun mountains (in the case of Sagalassos). The stars indicate the locations of five known suburban *villae*. Inset map by Joeri Theelen.

Fig. 3.1. Discussion:

Sagalassos and Düzen Tepe share noteable similarities in their topographical setting: they are both located on a relatively level part of a mountain slope, overlooking the same valley from similar altitudes[230]; they are both surrounded on all sides by steeper slopes and backed by (a) higher peak(s) that allow the construction of an *acropolis*;[231] and both are situated at similar geological contact zones (*i.e.* between limestone and ophiolitic deposits). Looking at the wider territory around the Ağlasun valley, it can be observed that Düzen Tepe and Sagalassos cover the only areas that comply to those criteria: sizeable, easily defendable and relatively level terrain at a reasonable altitude (for climatic reasons) and in proximity to the valley floor. Düzen Tepe even appears to have some topographical advantages over Sagalassos: the available terrain for urban development is flatter and larger, it is situated *c.* 100 m lower (and thus within slightly warmer weather conditions) and the valley with the main road is nearer (both in distance and elevation).

The reason why Düzen Tepe was abandoned must thus be sought in other explanations. It has been suggested that Düzen Tepe might have suffered from (chronic) water shortage.[232] In the present day Sagalassos is indeed blessed with more natural aquifers and there is no reason to suggest otherwise for Hellenistic-Roman times. Moreover, while Düzen Tepe is effectively located on an isolated mountain, the location of Sagalassos along an extensive mountain ridge meant a relatively inexhaustible water supply potential, since aqueducts could draw in water from springs further away as well (see § 7.2.1). This in itself might be enough reason why Sagalassos would thrive while the settlement at Düzen Tepe dwindles, but other factors might have played part in this process as well. Sagalassos' location ensured immediate access to other natural resources, such as suitable clays for pottery production (see § 5.3.2), forested slopes, *etc.* Moreover, the watchtowers on the hilltops above Sagalassos not only overlooked the Ağlasun valley, but also large parts of the Isparta valley north of the mountain range and thus offering a strategical advantage over Düzen Tepe. Jeroen Poblome furthermore suggests a possible Seleucid involvement in local initiatives, in an attempt to create a texture of urban entities throughout the area by nucleation of smaller settlements, a strategy that also explains the settlement of Seleucid colonies (e.g. Pisidian Antioch, north of Sagalassos) in the region.

Another parameter mentioned by Goodman as an indicator for the transition between the urban and the rural were natural features such as rivers, marches and steep slopes. We already established the (defensive) qualities of the slopes surrounding Sagalassos, but also within the built-up area are there challenging inclines. Visitors who hope to reach the Eastern Suburbium from the city centre, then as well as nowadays, are forced to climb a steep slope towards and beyond the Theatre, where only a narrow stretch of land is left between the back of the *cavea* to the south and the rocky Ağlasun mountain slopes to the north (**Fig. 3.3**). This stretch acts like a natural mountain pass, blocking the visual and acoustic connection between the city proper and its eastern *proasteion*. Here, the topography serves effectively as a boundary marker between the Eastern Suburbium and the urban centre. Even if no intentional planning is involved, the terrain covered by the Eastern Suburbium is isolated from the city and – via the already mentioned steep slopes surrounding the city – from the *chora*.

The topography forces the *proasteion* to orient on itself, because the area is roughly bowl-shaped (**Fig. 2.5**). The funerary monuments clearly exploited the visual potential offered by the topography (see § 7.4 and § 11.2.3). It appears that while the slopes of the Eastern Suburbium were mainly occupied by funerary plots, the more flat, central part of the quarter harboured the lion's share of artisanal complexes and its associated activities. This internal division is further highlighted by the presence of the Central Depression. The rather plane bed of this depression did not entice permanent structures, probably because weather conditions made the area (seasonably) marshy and unfit for constructions. It did serve other purposes, though, as the Central Depression was at least partially created by large-scale clay quarrying and was later used as a large landfill (see § 5.3.2 and § 11.1.2).

[230] Düzen Tepe is mainly situated between 1,400 and 1,450 m asl (Vanhaverbeke *et al.* 2010, 106); Sagalassos' monumental centre is situated slightly higher, between 1,485 and 1,530 m asl.

[231] The *acropolis* above Düzen Tepe, is located at an altitude of 1,782 m asl on top of Zencirli(kırı) Tepe. In the case of Sagalassos two hilltops above the city, along the same ridge, bear defensive structures: the fortress at Tekne Tepe at 1,880 m asl and the watchtower at Çinçinkırık Tepe at 1,945 m asl (and not 2,045 m asl as mentioned in Loots *et al.* 1999).

[232] Today the nearest spring is located between the two promontories, which means circumventing Zencirli Tepe in order to reach the water. A cistern of at least 10 m deep is still serving as a water well on the site itself (Vanhaverbeke *et al.* 2010, 106).

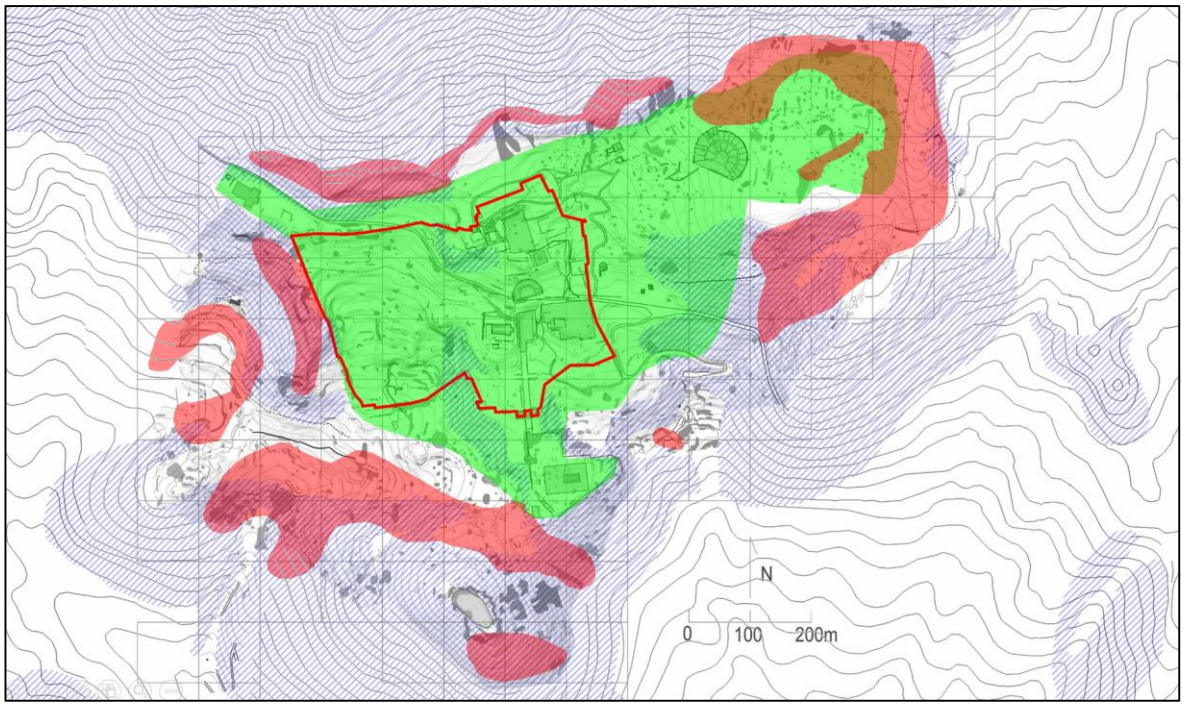


Fig. 3.2. Map of Sagalassos highlighting the relationship between the urban texture and the surrounding topography. The estimated maximum built-up area of Sagalassos is indicated in green, the *necropoleis* in red and the slopes above 25 % are shaded in blue. The red line indicates the reconstructed course of the city's fortifications. The map suggests a significant – and not illogical – relationship between the maximum urban expansion and the availability of relatively level terrain. Notice how only the Eastern Suburbium accounts for an overlap between the *necropolis* and the built-up area.

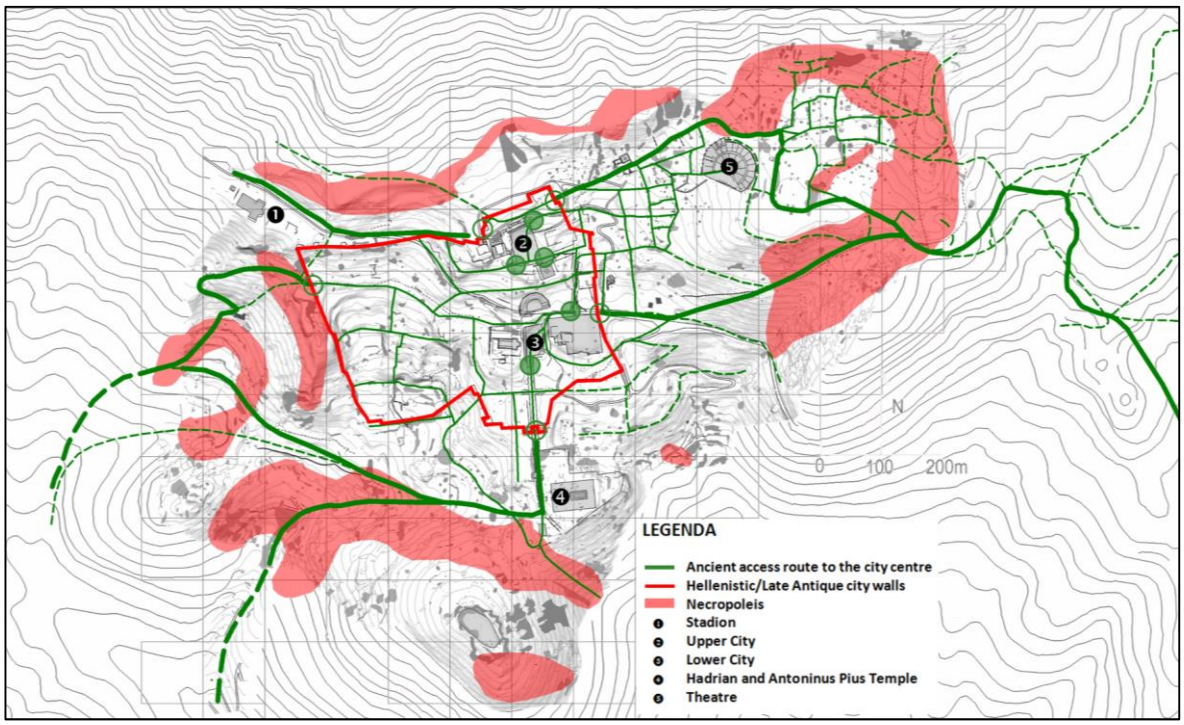


Fig. 3.3. Map of Sagalassos highlighting the relationship between the street network and the *necropoleis*. The main access routes into the city are indicated with thick green lines, the red line indicates the city's fortifications, the shaded red areas are the *necropoleis*. The open circles indicate the positions of (presumed) city gates, the full circles the locations of attested monumental arches within the city. More detail on the monuments of the city's Upper and Lower City is represented in Fig. 3.4.

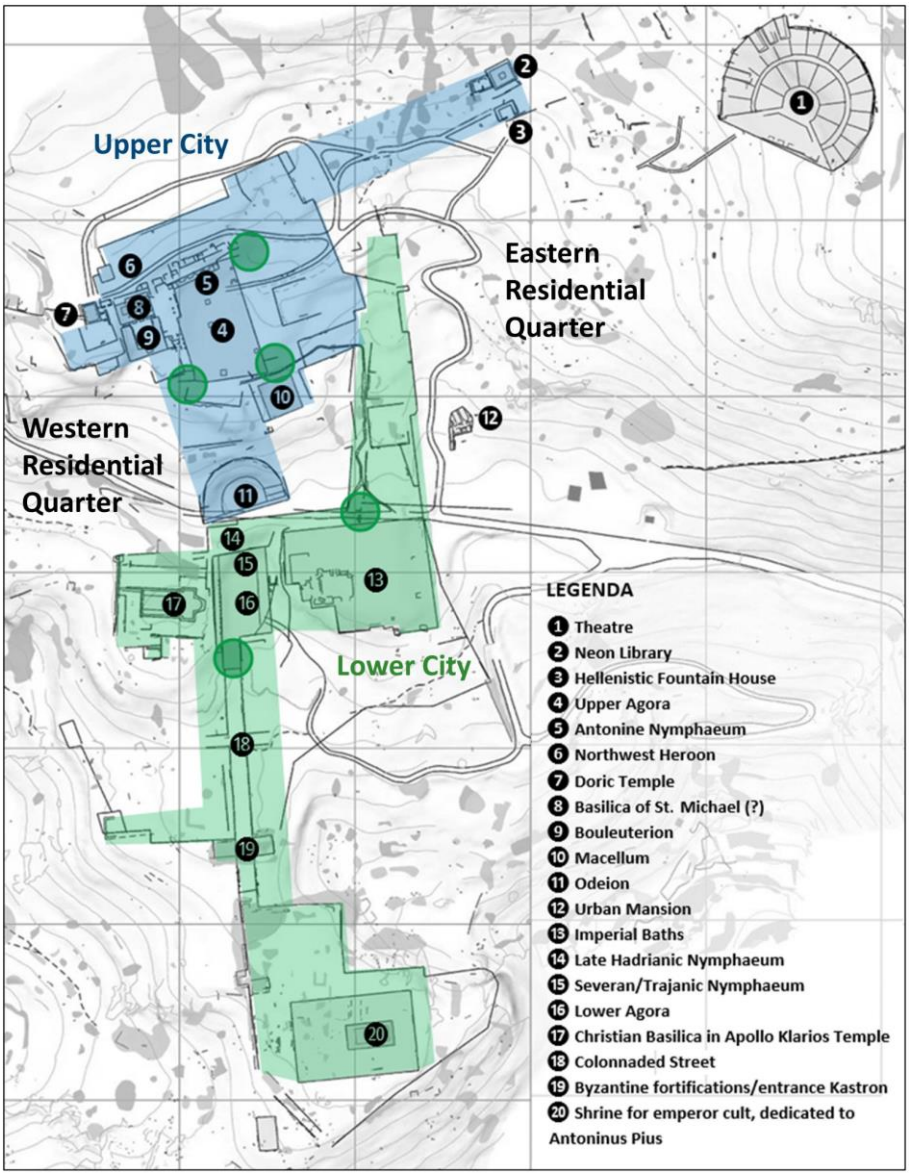


Fig. 3.4. Detail from the monumental centre of Sagalassos. The Upper City (highlighted in blue – monuments ❷-⓫) and Lower City (highlighted in green – monuments ⓭-⓴) are clearly defined by a different orientation. The green circles indicate the location of intramural monumental arches.

A particularly important distinction must be drawn between boundary markers that were visible, but did not restrict movement (*e.g. cippi*, arches and street patterns) and boundary markers that allowed only limited passage (*e.g.* topographical features and fortifications). Logically, in a city characterised only by features belonging to the first category, the relationship between the urban centre and any suburban development beyond is likely to have been more permeable than where it was defined by markers of the second category.[233] As mentioned above, the access to Sagalassos was mainly limited by its natural position on a steep mountain slope. Admittance to the city centre was further inhibited by the city walls. The local topography moreover restricted circulation within the *continentia aedificia* itself, and effectively secluded the Eastern Suburbium as a standalone, but still fully dependent, entity. As a consequence this also implied that potential nuisances (*e.g.* smells and noises) and risks (*e.g.* outbreak of fire or disease) could not sprawl freely towards the city centre.

[233] Goodman 2007, 66.

3.2.2 *Necropoleis* as boundary markers?

Since Sagalassos is literally surrounded by its burial grounds, these form a clear division between the 'sacred' space of the city – which in specific Roman contexts would be referred to as '*pomerium*' – and the area beyond. Although not intended to act as boundary markers themselves, the cemeteries could still help to render the edges of an urban centre visible to its inhabitants and visitors alike. It was a widespread and generally accepted custom and law in Roman times – but also an existing tradition practiced throughout the hellenised world (see § 5.4.1) – to forbid burials within the perimeter of the city's sacred space. However, tombs *intra muros* could always be granted as an exceptional honour[234], a custom that was attested in Classical-Hellenistic Anatolia in individual cases.

In Sagalassos the extent of burial grounds could be estimated because of the visual remains of specific burial types in the areas immediately adjoining the inhabited areas of the city: rock-cut tombs (*arcosolia* and *chamosoria*), freestanding monuments (*sarcophagi* and *osteothekoi*), remains of monumental tombs (*naiskos* tombs, *aediculae*, *etc.*). These burial types are treated in more detail in the respective chapters of Part 2 of this thesis, but it is worthwhile to mention that the research on this topic culminated in Veli Köse's 2005 monography *Nekropolen und Grabdenkmäler von Sagalassos in Pisidien in hellenistischer und römischer Zeit*.[235] Furthermore, some tombs had been excavated in the first years of excavations at Sagalassos[236] and, since 2011, several sites within the Eastern Suburbium have been specifically (re)opened in order to study the funerary culture and practices.[237] Terracotta cremation urns, *bustum* burials, ustrina (sites of funeral pyres) as well as simple inhumations, all of which did not leave any visible trace at the surface, can indeed provide additional information for defining the perimeter of the city's consecrated space.

Only the Western Necropolis is located immediately outside the walls; the northern, eastern and southern *necropoleis*, the latter two being considered the oldest[238], envelop the broader occupied area of Roman Imperial times (**Fig. 3.3**). This might suggest that the borders of the 'sacred' urban space, in which burials would have been forbidden, were already outlined before the Roman extension and did not coincide with the city walls. While our knowledge on the location and extension of the pre-Roman *necropoleis* around the city is limited, the known *in situ* funerary remains dating back to Hellenistic times were indeed encountered within the currently know *necropoleis*. Even though it cannot be excluded that the Eastern Residential Quarter, for example, (partially) occupies an older *necropolis*, excavations within this area could not provide concrete evidence for this claim.[239] This residential zone is one of the two large residential quarters of the city. In the case of Rome itself, it is well-known that the *pomerium* was not a static concept, but could be adapted to incorporate extending parts of the city (among others by Claudius, Vespasian, Titus, Hadrian and Aurelian).[240] While these areas are in many ways 'suburban' − located outside of the fortifications, separated from the centre by monumental arches and lacking a well-planned layout − they apparently were in a legal and religious way regarded as urban. While we lack the written records for provincial cases, other cities and towns throughout the Empire had to deal with

[234] *Ibidem* 2007, 48.
[235] Köse 2005a.
[236] Waelkens *et al.* 1990a, 1990b, 1991 and 1992.
[237] Claeys & Poblome 2012a, 2013a, 2013b and 2014; Talloen 2012; Murphy 2012.
[238] Köse 2005, 17-19.
[239] At the site Library East, several fragments of *osteothekoi* were encountered in the colluvium that covered the collapsed remains. It is likely that these slid down from the *necropolis* on the slopes immediately north of the site. But there was also a complete vase-shaped *osteothekos* that was used as a mortarium in the 5th century AD kitchen within this complex (personal communication from Hendrik Uleners, supervisor of the Library East excavations 2011-2015). As elsewhere on the site, abandoned funerary remains were unscrupulously used as *spolia*. The fact that we also recognise this in the city centre, proves that funerary elements used as *spolia* were not necessarily found at the construction spot.
[240] Lafon 2001, 201-204; Goodman 2007, 44. Likewise, also zones within the walls could be excluded from the *pomerium*, as was the case for example for the Aventine Hill in Caesar's time (Lafon 2001, 201).

similar issues when they grew beyond their original walls and may have responded in a likewise fashion. This might also apply in the case of Sagalassos.

The hypothesis that the equivalent of a Roman *pomerium* was intended to cover an area larger than the terrain enclosed by the city walls might be plausible when observing the relationship between Sagalassos and its topographical setting (**Fig. 3.1**). Sagalassos was strategically surrounded on all sides by steeper slopes, making it more easy to defend. From Late Hellenistic times onwards, the city would sprawl beyond its original fortifications and in Roman Imperial times would occupy an area of *c.* 31.5 ha[241], effectively filling in the terrain fringed by the steeper surrounding slopes (**Fig. 3.2**). While terracing might have facilitated construction on slopes with a certain gradient and great efforts were sometimes undertaken to level out an accidented terrain[242], the steepness of the slopes surrounding the site (above 20 %) made them inefficient for large-scale construction plans. Those same slopes, however, proved to be suitable (*e.g.* for *sarcophagi*, *osteothekoi*, pit burials, urns, *etc.*) or even necessary (*e.g.* for *arcosolia*) terrain for a wide spectrum of tomb types, while the larger burial monuments would compete for space with the living (see § 7.4 and § 11.2.3).

The *necropoleis* can be considered as a moral, transcendental boundary, in a sense that it keeps the dead ancestors in the *necropoleis* close, but clearly segregated from the living. The boundary is, necessarily, to some extent permeable as well: many funerary monuments were obviously built to draw attention, to impress and to invite. Also the practice of intramural burials (*e.g. heroa*) can be understood in this light.

3.2.3 Permeable zones of transition

The concepts of *continentia aedificia* and *passus mille*[243] encountered in § 1.1.2 can readily be applied to the whole extramural eastern zone of Sagalassos, including both the residential quarter immediately adjacent to the walls' perimeter and the Eastern Suburbium (**Fig. 3.5**). Geophysical research has as a matter of fact indicated the uninterrupted layout of streets and adjoining constructions towards the eastern edge of the former Potters' Quarter (see **Attachment 20**). The development of the Eastern Residential Area – and the subsequent loss of purpose and partial abandonment of the city walls – must have obscured the sense of distinction between *intra muros* and *extra muros* Sagalassos. Nevertheless, we may expect that this new (elite) residential quarter was accepted as possessing a 'true' urban nature and thus as an extension of the consecrated city centre. There was indeed a strict separation with the *necropoleis*; even if this urban expansion overlapped with earlier burial grounds, the area was clearly reallocated as a strictly residential zone. Moreover, the newly laid out street pattern appeared to deliberately follow the orientation of the monumental centre and the expansion fell within the area enclosed by the natural topographical boundaries (steep slopes) of the city. This, however, does not apply for the Eastern Suburbium. Even though there is in fact an uninterrupted built-up area, the connection with the Eastern Suburbium passes through a narrow stretch of land, crossing a ridge that effectively creates a natural boundary. It is in our opinion not a coincidence that artisanal and funerary activities did not spill beyond the *suburbium* for many centuries.

[241] Martens *et al.* 2008, 137. The estimations for the maximum built-up area are based on intensive city surveys by the team of Femke Martens (see also Waelkens 2006, 209-211).

[242] The Colonnaded Street, for example, was partially laid out on top of a landfill and partially cut into the bedrock (Jacobs & Waelkens 2013, 225). Similarly, a vast area to the east of sites G and Upper Agora East was increased by several meters in Early Imperial times (Sites G and UAE 2015 internal excavation reports by Johan Claeys).

[243] Goodman 2007, 15-16.

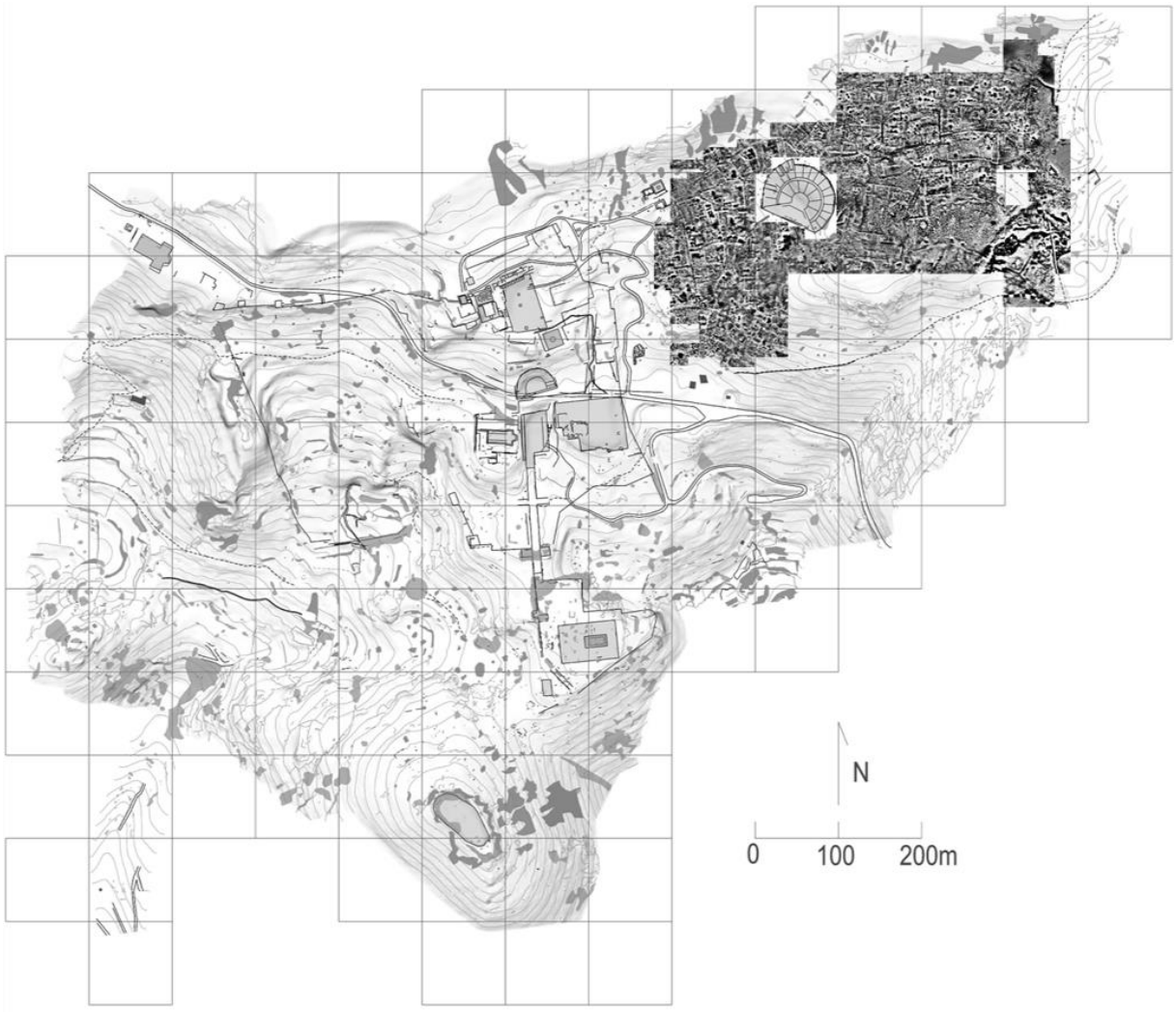


Fig. 3.5. The geophysical survey, plotted here on the general map of Sagalassos, confirmed the presence of a continuously built-up area (*continentia aedificia*) east of the city centre, which was already suggested by field surveys and by mapping the visible remains.

In contemporary Roman iconography, in the cases where space was a premium, Roman artists would tend strongly towards representing cities as compact entities defined by their walled circuit or city gates.[244] This implied that monuments outside the walls of such cities were not generally considered important enough as symbols of *urbanitas*. However, in the case of Rome's *Forma Urbis* − where space was not an issue − we notice that the coverage extends beyond the Servian wall, probably incorporating most of the contemporary *continentia aedificia.*[245] The outer limits of the *continentia aedificia* are difficult to identify in Rome. Just as the *suburbium* gradually gave way to a more rural landscape, we should imagine the *continentia aedificia* merging into the '*suburbium* of the elite *villa* estates' (the second acceptation of *suburbia*, as seen in § 1.1). However, the limits of the Eastern Suburbium of Sagalassos are more readily defined, mainly because of the topographical characteristics of the area under study. We already established its effective boundary with the city centre; similarly the topography, with steep slopes on all sides, restricts the outside access to Sagalassos. These boundaries are obviously not rigorous and several features, especially funerary activities, tend to obscure the

[244] See some examples in Goodman 2007, 28-37. A noteworthy exception is the relief discovered at Avezzano (**Fig. 3.6**), providing a detailed illustration of extramural development; also the Column of Trajan in Rome provides some views on suburban features.

[245] Goodman 2007: 29-34.

demarcation of the quarter. In addition we do not possess a geophysical scan of larger areas beyond the Eastern Suburbium. But the results of intensive field surveys in connection with the mapping of remains visible at the surface, clearly indicate that the *continentia aedificia* swiftly dwindles east of the Eastern Suburbium and that the area beyond is the proverbial 'land of the suburban *villae*'.

In fact, this appears to be exactly the case in Roman Imperial Sagalassos, as the sites of five suburban *villae* have been identified within a 4 km radius of the town (**Fig. 3.1**).[246] The *villae* were identified during field surveys on account of the monumentality of their remains, such as *in situ* ashlar walls and loose finds of hypocaust tiles, tesserae and fragments of marble wall veneer.[247] The distance between the *villa* at Gökpınar and the Eastern Suburbium and Eastern Necropolis is not more than 750 m along the road up through Elmalı Pınar (see **Attachment 13**). Nevertheless, the site had its own small *necropolis*, establishing the *villa* as a more independent entity than the *proasteion*. On the other hand, these suburban *villae* capitalised on their proximity with Sagalassos as market centre, with its *agorai*, market building, *macellum* and individual shops. All suburban *villae* fall within Michael Chisholm's 'one hour' walking radius (0-5 km), which in agricultural societies is the appropriate catchment area for intensive agri- and horticulture.[248] Indeed, surface finds in the form of olive presses and evidence of ancient manuring suggests the presence of olive yards and intensively cultivated gardens or orchards. Chisholm's concentric model, however, will be distorted when taking in account major thoroughfares (streets and rivers) and local topographical and pedological restrictions. This also applies to the concrete case of Sagalassos, where only the lower slopes and valley would be suitable terrain for cultivation, which meant an uphill travel to the market centre.

Geoff Adams states that, for its residents, the prime motivation for the inception of a suburban *villa* is the intended lifestyle. His specific set of criteria[249] cannot be tested on the five *villae* mentioned above, due to the absence of excavations and subsequent lack of detail in our data. But some questions can be raised. Even if their location might come with dazzling panoramas over the landscape, for example, it is very likely that practical necessities and not pleasure would have been behind the choice of location. Likewise, the agricultural role of these estates near Sagalassos might have been more urgent than is 'proper' for a truly suburban *villa*, since "*the elite exploitation of land outside the city proper for both residential and agricultural purposes was obviously related to the increasing need for resources at the time when Sagalassos grew to become a regional* metropolis."[250]

3.3 Conclusions

We have established that the city of Sagalassos, throughout most of its history, was not a clear homogeneous urban entity enclosed by city walls and surrounded by a rural *chora*. Even within the relatively small perimeter of the walls itself, it is possible to distinguish different levels of urbanisation[251], with the monumental centre appearing to be highlighted from the residential quarters by means of monumental arches and a more regular street pattern. Beyond the walls there is an extensive *extra muros* development east of the monumental centre that attempts to adapt to some of the characteristics of the monumental centre and to adopt its associated values. The Eastern Suburbium, even though being part of the same *continentia aedificia* as the Eastern

[246] These data are based on a map by Hannelore Vanhaverbeke, who supervised the suburban surveys (Waelkens *et al.* 2006, 216 Fig. 4), but has been adapted to new insights: one of the suburban *villae* represented in that figure turned out to be an Early Byzantine suburban church (Claeys & Poblome 2012c), while a new suburban *villa* has been discovered at Gökpınar, as the crow flies barely 1 km east of the city centre.

[247] Vanhaverbeke *et al.* (eds.) 2008, 137.

[248] Chisholm 1968, 175.

[249] Adams 2012, 8-9. His criteria are: close access to the city (but not directly adjacent); well appointed facilities; sizeable domestic features; entertaining rooms in ratio with the rest of the structure, agriculture not as the dominant feature of the building; intention to appreciate the view or sea breezes.

[250] Martens *et al.* 2008, 137-138.

[251] Which Xavier Lafon refers to as "*espaces intermédiaires*" (Lafon 2001, 199).

Residential Quarter, was a specific and distinct part of this development. Its unique features, the deviating activities and its interrelation with the Eastern Necropolis make it likely that this *proasteion* was conceived by the Sagalassos population as a clearly separate entity, distinguishable not only from the city centre, but also from its immediate surroundings and the *chora* beyond. The apparent absence of residences, the predominant presence of installations of a funerary and artisanal nature, the topographical isolation, the disordered layout, *etc.* indeed make the area stand out as a textbook non-urban zone, even though there is a continuation of buildings all the way down to the city centre. This is the quintessential zone that legal texts describe as the lands adjacent to the city where burials and risky crafts are 'condemned' to and which in some cases would develop from pagan funerary grounds into Christian cultic foci and even new civic centres. These areas bursting with the racket and razzle-dazzle of a variety of (daytime) activities can be opposed to the alleged *salubritas, otium et amoenitas* of the suburban farm land less than a kilometre beyond.

The above discussions also prove that the division of space in the ancient territory of Sagalassos can be approached in a much more intricate way than the traditional view of a separation between town, *proasteion* and *chora*. Based on the above observations, we can attempt to divide the territory of Sagalassos into the following zones with different 'levels of urbanisation':

- **Monumental city centre**. This zone is defined by a regular street pattern and honorific arches marking the entrances to important public squares. Most of the buildings are of a public nature. The city centre can be further subdivided into two distinguishable zones with a slightly different orientation:
    - Upper City, with the Upper Agora at its centre: political heart in Roman Imperial times.
    - Lower City, with the Lower Agora at its centre: economic heart in Roman Imperial times.
- **Residential quarters.** Part of the *continentia aedificia*, mainly consisting of infrastructure of a private nature. There are roughly two large zones, on either side of the monumental centre:
    - **Western Residential Quarter**. This intramural zone is enclosed by city walls and the *necropoleis* on one side and by the monumental city centre on the other side. It is defined by a rather irregular street pattern and consists mostly of private architecture.
    - **Eastern Residential Quarter**. This extramural zone is enclosed by city walls and the monumental city to the west and by steep slopes to the north, east and south. The area can be further subdivided into a part with large, elite housing, oriented on the monumental Lower City, and a less regular laid out part with smaller houses on the steeper eastern slopes.
- **Periurban *proasteion*** (*proasteion* in the first acceptation). The only area within the territory of Sagalassos that fulfils the description 'a densely built-up, extramural area, where activities and infrastructure are found that are for various reasons allotted to the city's edges' is the **Eastern Suburbium**. This area has a relatively chaotic layout, contains the main artisanal quarter and overlaps with the Eastern Necropolis. It is part of the *continentia aedificia*, but can still be identified as a unique entity, based on its topographical isolation (enclosed by steep slopes on all sides) as well as by the nature of the attested activities and infrastructure.
- ***Necropoleis***. The burial grounds of Sagalassos effectively envelop the built-up area, but are to some extent – in the case of monumental tombs – also part of the *continentia aedificia*. However, they mostly occupy terrain that is unsuitable for other permanent infrastructure, while still profiting from proximity to either the city centre or the major thoroughfares.
- **Suburban *proasteion*** (*proasteion* in the second acceptation). This term is used here to denominate the larger suburban zone surrounding the city, dominated by farms (and *villae*?) and their lands. The 'suburban *proasteion*' consists of the lower slopes of the Ağlasun mountains, where five *villae* have been identified within a 4 km radius of the town. This is not a fully urbanised, nor a fully rural area; it is the zone that Pascal Arnaud refers to as '*fundi suburbani*'[252].

[252] Arnaud 1998, 80-81.

- ***Chora*.** The actual rural *Hinterland* of the territory. This zone can be further subdivided into different types of terrain according to their purpose[253]:
    - ***Pedion*:** the part of the countryside that serves agricultural purposes. In the case of Sagalassos this can consist of the level terrain in the valley as well as the lower terraced slopes around it. This zone partially overlaps with the '*suburbium*' as described above.
    - ***Eschatia*** and ***oros*:** respectively the less accessible parts of the countryside and the actual mountain ranges. This terrain cannot be cultivated, but in the case of Sagalassos, most of the mountainous land can still be used for pastoralism.

This scheme is reminiscent of, but does not fully comply to, the traditional view of a concentric pattern of zones. Neither can it be explained purely as a radial model[254], "*where occupation spreads along the main thoroughfares, as a function of the ratio between costs and travel time*."[255] We should rather try to understand this model as the result a complex interaction between circumstantial factors as topography, geography, legislation, economy, custom, taboo, *etc.*, while we should likewise not exclude more difficult to define factors like necessity and opportunity.

Only after the following chapters, in which the Eastern Suburbium will be studied in detail, will it be possible to assess its relationship with the surrounding zones and to refine and explain the above model.

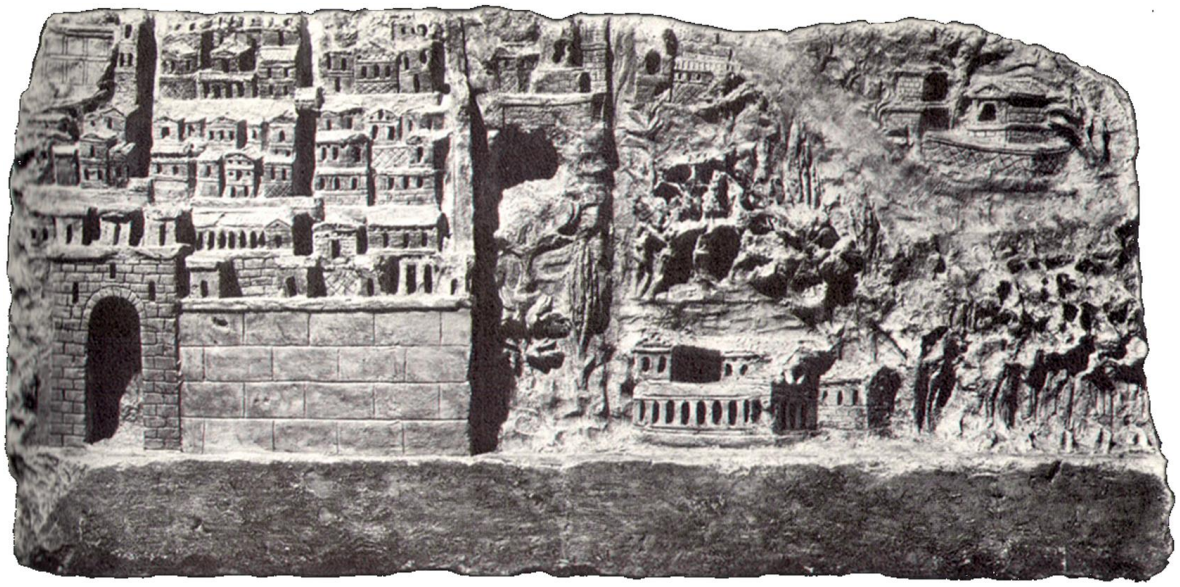


Fig. 3.6. The 1st century AD Avezzano relief displays a rare example of extramural development: a *villa* (?) set in a forested area. From towncrafting.blogspot.be.

[253] Based on Audring 1981, 216.
[254] Arnaud 1998, 80-81.
[255] Corsi accepted.

PART 2. THE EASTERN SUBURBIUM: A CHRONOLOGICAL OVERVIEW

In this part of the dissertation we will present the data acquired during the past 25 years of interdisciplinary research in the Eastern Suburbium. The data will be presented in a chronological order, starting and ending with a sketch of the area respectively before (pre-Classical period) and after (post-7th century AD) human interventions. For these 'marginal' periods we are to a large extend depending on non-archaeological data to reconstruct the surroundings and environment. However, the intermediate period of more than a millennium is covered by the variable archaeological record as well, starting in the (Late) Classical period and continuing throughout the Hellenistic, Roman Imperial, Late Roman and Early Byzantine times. The data will be presented in Chapters 4-9. The division between chapters is not strictly following traditional historical periodisation, but but takes into account local developments (historical, politifcal, socio-economical, religious and/or cultural) and path dependency (see also Ch.10). The division is also to a certain extent constrained by the framework provided by the datings for the local Sagalassos Red Slip Ware (SRSW) phases 1-9 (see **Tables A-B** in the General Remarks), which form the basis for the absolute dating of a lot of features and structures throughout Sagalassos. The data at hand could be most significantly subdivided into the following chapters:

Chapter 4.	Before (permanent) human occupation (before *c.* 500 BC)
Chapter 5.	Late Classical and Hellenistic period (*c.* 500 BC – *c.* 25 BC)
Chapter 6.	Augustus and the Early Roman Imperial period (*c.* 25 BC – *c.* 150 AD)
Chapter 7.	Roman Imperial period (*c.* 150 AD – *c.* 350 AD)
Chapter 8.	Late Roman period (*c.* 350 AD – *c.* 550 AD)
Chapter 9.	Early Byzantine times and the aftermath (after *c.* 550 AD)

These Chapters 4-9 cover individual subjects/features as far as possible within the proposed chronological phases. We try to present the data in detail, allowing the results from different scientific disciplines to cross-fertilize in order to reach well-substantiated interpretations. Thus discussions concerning a specific topic, within the time frame, are presented in these chapters as well. However, discussions that overlap different time periods and/or include different topics are reserved for Part 3 of this thesis, where the developments in the Eastern Suburbium will be viewed against the wider historical and geographical realities. Nevertheless, we did not try to curtail the discussions in Part 2 that inherently transcend these artificial limitations.

There are lifecycles of structures, features and activities that cannot be confined into the proposed chronological framework, such as the street network, burials at the PQ 4 compound, pottery production throughout Imperial times, *etc.* Those cases are covered in the most relevant chapter. The street network, for example, is discussed in detail in the period the street network took form (see § 6.2.1). The burials at the PQ 4 compound could be split up in two periods: Early Roman Imperial burials that could be associated with the original construction phase of the compound (see § 6.4.2) and Roman Imperial – Late Roman burials that represent a continuous phase of burial activities dated between *c.* 250/275 – 400 AD. Even though there is no burial hiatus during Roman Imperial times, the Late Roman date for the final burials defines why this group is discussed in § 8.4.4. Likewise, even though there is no doubt that the pottery activities within the Eastern Suburbium continued unabatedly through Roman Imperial times, most of our information dates to Early Roman Imperial and Late Roman – Early Byzantine times. The relevant discussions are therefore allocated in those chapters (see respectively § 6.3 and § 8.3).

The individual chronological chapters are subdivided into functional paragraphs, which are used consequently throughout. This way we hope to set up a logical framework, which in turn should improve intelligibility, continuity and easy access as a reference work:

Paragraphs x.1.	Introduction
Paragraphs x.2.	Infrastructure (terracing, street and water network)
Paragraphs x.3.	Artisanal activities
Paragraphs x.4.	Funerary culture
Paragraphs x.5.	Communal presence

This framework could be applied throughout Chapters 5-8. The opening and closing chapters of this Part 2 follow their own logic, as these cover periods in which the Eastern Suburbium cannot be defined as a fully developed *proasteion*, since the study region not only lacks the necessary mixture of features and activities, but also lacks an actual urban centre from which the '*sub-urb-ium*' / '*pro-aste-ion*' derives its identity.

The earliest indications for permanent human presence in the area that would later develop into the Eastern Suburbium appear to date to (Late) Classical – Early Hellenistic times (*c.* 400 – 189 BC). Due to the dense set of human activities unfolding over the subsequent millennium, it is particularly hard to reconstruct the surroundings and environment prior to human interventions. However, core samples taken from various locations throughout the territory of Sagalassos, including from within the Eastern Suburbium proper, allow studying the vegetation and climate of the region prior to intensive human occupation. These data will be studied from the general (the territory of Sagalassos) to the specific (the Eastern Suburbium) and weighed against historical developments in the study region.

4.1 Sagalassos and its territory during the Beyşehir Occupation Phase

The 2nd millennium BC in the northeast Mediterranean had witnessed a gradual but pervasive transition from a landscape of höyüks to a patchwork of principalities. Society grew more diversified and land ownership became reserved for an elite that increasingly centralised its political power. Throughout this transition agriculture and pastoralism would remain the basic economic means of existence.[256] The palynological evidence, however, suggests that human (agricultural) activity within Southwest Turkey increased considerably during the 1st millennium BC - 1st millennium AD. This so-called Beyşehir Occupation Phase (BO Phase) is characterized by an increase in the amount and variety of indicators for arboriculture and horticulture – linked to a significant rise in temperature and precipitation – which could be attested in large tracts of the northeast Mediterranean basin.[257] This period probably corresponds with the arrival of 'Pisidian tribes'[258] in the area and the subsequent development of villages into cities.[259] The BO Phase appears to coincide partially with a gradual deforestation between ~1640-1520 cal BC and ~410-240 cal BC, during which the pine forests that used to characterise the environment were partially cleared. The cultivation of fruits appears to follow swiftly after 1300 cal BC.[260]

However, additional and ongoing palynological research within the Sagalassos study region, especially by Marleen Vermoere[261], David Kaniewski[262] and Johan Bakker[263], indicated that the palaeoecological picture differs greatly from one valley to the next, impeding extraplotaion on a supra-regional level. Within the study region, the valleys of Ağlasun and Gravgaz and the marshlands around Bereket, situated respectively 3 km south, 15 km southwest and 25 km southwest of Sagalassos, could be studied by archaeologists, palynologists and geomorphologists (**Fig. 4.1**). The onset date for the BO Phase varies greatly between the sampled areas, possibly under the influence of the local topography and microclimate. The pollen data from the Gravgaz valley suggests a starting date for the BO Phase between 400-260 BC (preceded by a few centuries of deforestation), which appears to be in accordance with the date around 280 BC inferred from the Bereket cores. But the – scarcer –

[256] Waelkens 2000b; Poblome 2012, 465-468.

[257] The specific dates for the Beyşehir Occupation Phase can differ greatly from one study area to the next, but the phase has been attested throughout Southwest Turkey. The most quoted starting point lies between 1.800 and 1.250 cal BC and the end point can vary between 1.130 cal BC and 985 cal AD. However, the BO Phase is most often dated between 1.500 BC and 800 AD (Vermoere 2004, 108-110). The Phase is named after the Beyşehir Lake. The study that led to this terminology, however, is particularly based on palaeoecological investigations carried out at the Gölhisar Lake (Eastwood *et al.* 1998). The distance between Sagalassos and these lakes is in both cases *c.* 80 km as the crow flies, with the Beyşehir Gölü to the east and the Gölhisar Gölü to the southwest.

[258] 'Tribe' in this case is a too rigid translation of the term '*ethnos*' used by Strabo (see also Footnote 273), the latter should rather be translated as "*a (consolidated or dispersed) population*" (Vanhaverbeke *et al.* 2010, 123).

[259] Vermoere *et al.* 2000, 591.

[260] Bottema & Woldring 1995, 332-334; Vermoere *et al.* 2000, 591-593; De Cupere 2001, 175-176.

[261] Vermoere *et al.* 2003; Vermoere 2004.

[262] Kaniewski *et al.* 2007; 2008.

[263] Bakker *et al.* 2011; 2012.

data from the Ağlasun valley seem to suggest a starting date half a millennium earlier, possibly as early as 1000/800 cal BC.[264] The discrepancies in dates retrieved from these valleys, that are geographically within proverbial earshot, show to what extent local differences should be taken in account. While the Ağlasun valley appears to support the hypothesis of the onset of the Beyşehir Occupation Phase being driven mainly by climatic change, the data from Gravgaz and Bereket rather seem to suggest a political impetus behind the change in human occupation.[265] However, even if these events are indeed concurrent, there is not necessarily a causal relationship between them. The BO Phase in the area of study is mainly indicated by the increased presence of secondary anthropogenic indicator species as plantain (*Plantago lanceolata*), knotgrass (*Polygonum aviculare/cognatum*) and *Cerealia* type pollen. Primary indicators such as cultivated tree species as the olive (*Olea europaea*) and walnut (*Juglans regia*) are represented but relatively rare throughout some of the Ağlasun pollen sequences. The onset of the BO Phase in the Gravgaz and Bereket areas shows a more defined increase in primary indicators, with apart from the olive and walnut also manna ash (*Fraxinus ornus*), chestnut (*Castanea sativa*), grape (*Vitis finifera*) and – in the case of Bereket – pistachio *(Pistacia atlantica*) and hazel (*Corylus*). The pollen data also records a general expansion of oak woodland throughout the territory, most probably to be linked with an increasing need for grazing lands for pigs. Local wetland indicators (*Carex*, *Apium/Berula* type, *Sparganium/Typha angustifolia*) show increased values in all cores during this period.[266]

The anthropogenic indicators attested in the palynological record, however, are not affirmed by the archaeological data gathered from the territory of Sagalassos. Sites belonging to the Anatolian Dark Ages (1200 - 800 BC), the Phrygian (8th - early 7th century BC), Lydian (7th century - 546 BC) and Achaemenid (Persian) (546 - 333 BC) periods are especially underrepresented in the archaeological record of the Ağlasun valley. This can partially be explained through the phenomenon of cultural superposition: several of the large Hellenistic-Roman sites within the territory are probably superimposing and obscuring older (phases of these) settlements.[267] The lack of finds dating to the Archaic Period (*c.* 750-546 BC) from the excavations of Sagalassos and nearby Düzen Tepe, but also from the intensive surveys in the Ağlasun valley (only one Archaic sherd could be identified) contrasts with the known sites in the large agricultural plains of Burdur and Çeltikçi (**Fig. 4.1**).[268] The advantages of having natural thoroughfares with other valley systems and with the coastal areas could have been one factor for settlements to favour the Burdur and Çeltikçi valley, with the Ağlasun valley remaining more isolated (it is these interregional connections that would allow a small elite to improve their social status beyond the most basic substanance levels, as mentioned above). In this light, the valley of Ağlasun may only have been occupied more intensely after a period of population growth and the subsequent need for the expansion of settlement areas in hitherto relatively unoccupied valleys.

Even though the study of the pottery record suggests that the exchange between adjoining valley systems was limited, the similarity in characteristics shared by the most developed sites (Uylupınar, Düver/Darsa and possibly Olbasa and Seydiköy) suggests that their location and connectivity are defining characteristics: these are all central places surrounded by monumental funerary monuments within a large agricultural plain – in many cases situated on a promontory – and in direct relation with the coast through natural arteries. The smaller mountain sites probably played their role in this settlement system by controlling the strategically important

[264] Bakker *et al.* 2012, 253-255, 258-259. One estimate from a core from Ağlasun gives an estimate of 2480–2350 cal BC, which is presumed to be the result of a dating error or of the presence of a hiatus in the pollen record after this dated level (Bakker *et al.* 2012, 258-259).

[265] Bakker *et al.* 2012, 259, 263.

[266] Bakker *et al.* 2012, 254-255; Kaptijn & Bakker 2014.

[267] Vanhaverbeke 2003, 103-106; Poblome *et al.* 2011, 527; Mitchell & Vandeput 2013, 100.

[268] These sites include plain settlements as Düver/Darse (Burdur) and Sevdiyeköy (Çeltikçi), but also mountain sites or fortified kales like Hacılar Kalesi, Kepez Kalesi, Kayış, Taşkapı Kalesi (Poblome *et al.* 2011, 528; Poblome 2012, 466). See also Vanhaverbeke & Waelkens 2003 on the *chora* of Sagalassos, a work that is being updated with additional survey results by Eva Kaptijn and Ralf Vandam.

thoroughfares. Also the technological characteristics of the black-on-red tableware − a Levantine colour scheme applied on local shapes and functions − seems to confirm this thesis.[269]

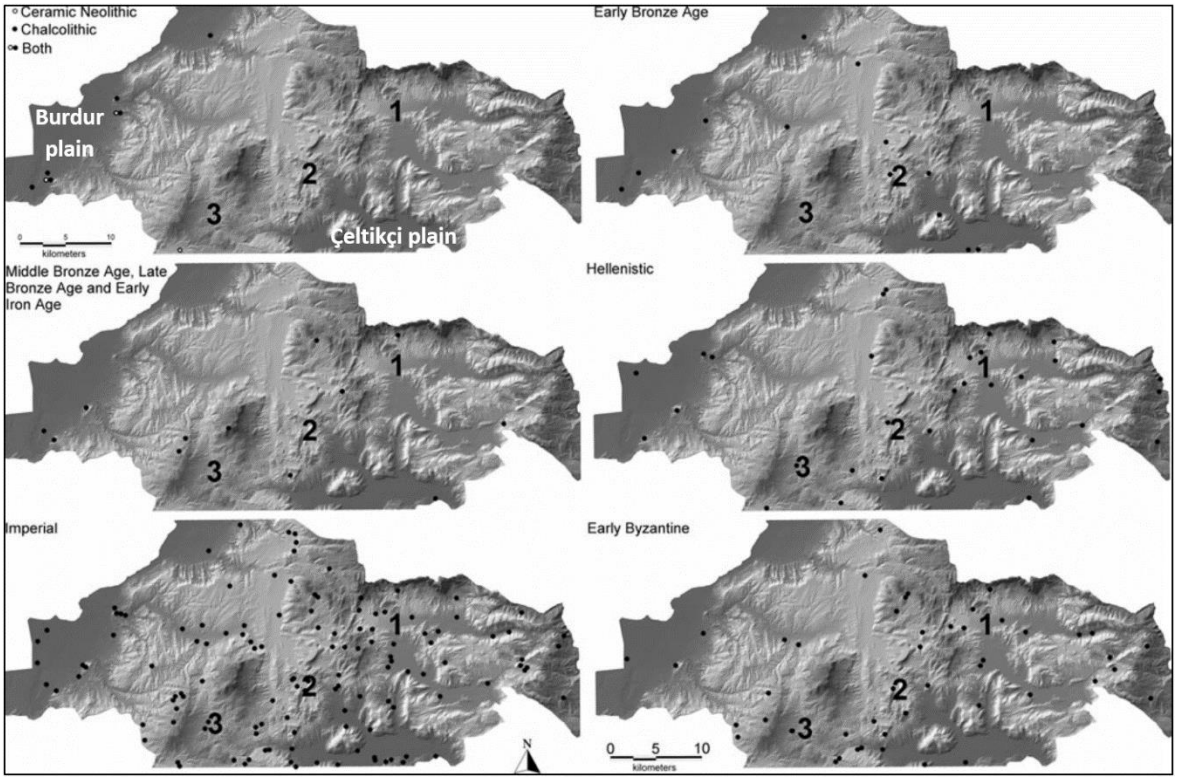


Fig. 4.1. An overview of the number and location of settlements in the territory of Sagalassos through time. The numbers represent the cored areas: the Ağlasun valley (1), Gravgaz valley (2) and Bereket valley (3). Some of this data is by now superseded. For example, additional Archaic-Classical-Hellenistic sites in the form of villages/hamlets/farms and a presumed rock sanctuary have been discovered in the Burdur plain (Kaptijn *et al.* 2012, 144-145). Human presence in the Ağlasun valley, however, remains largely underrepresented in pre-Hellenistic times. From Bakker *et al.* 2012, 257 Fig. 4; based on Vanhaverbeke & Waelkens 2003.

'Pisidia' at that time was inhabited by 'Pisidian tribes' (see Footnote 258), even though these did not represent one homogeneous group. They at least partially seem to descend from Luwian Indo-European immigrants who arrived in Anatolia at the end of the 3rd or beginning of the 2nd millennium BC. But the social and cultural composition of the region was more diverse, as is suggested by recent linguistic and archaeological research, and can thus not be explained solely by the influx of a new ethnical group.[270] This group of settlers developed into two branches: the Hittite on the one hand and the Ur-westanatolian, among which the 'Pisidians', on the other hand. An analysis of the mitochondrial DNA of 53 individuals from the 11-13th century AD Byzantine population at Sagalassos does not rule out a transcaucasian origin for a part of the demographical spectrum of the city.[271] Even though most of the affinities with other mainly western Eurasian populations can be explained by later historical events and contacts, there is little doubt that also the earliest origins of the 'Pisidian *ethnos*' was more diversified and should be studied on a micro-regional level.[272] It is presumed that these individual, competing tribes spoke different dialects of Urluwian and might even share a different background. The ancient authors are not conclusive either.[273] Pisidian civilisation has for a long time been considered as primitive, warlike and

[269] Poblome *et al.* 2011, 528-530; Poblome 2012.
[270] Poblome 2012, 460-461.
[271] Ottoni 2011, 575.
[272] Poblome 2012, 460-461.
[273] The 'Solymoi' (sometimes equated with the Milyai or Milyadeis) mentioned by Homeros and Herotodos (5th century BC) probably lived in the area overlapping with the Sagalassos territory (Homeros *Iliad*, 6.155-210; Herodotos *Histories*, 1.173).

unruly[274] for scholars whose main sources were these ancient authors, but ongoing studies are slowly refining this too one-sided view.[275] However, evidence for the Archaic and Classical periods in particular is very limited and does not necessarily interfere with the adjectives 'warlike' and 'unruly', qualities regarded as fitting for mercenaries.[276] Ongoing linguistic and aDNA research[277] might shed more light on the etchnical background of the inhabitants of Sagalassos and on the population movements throughout the study period.

4.2 The Eastern Suburbium during the Beyşehir Occupation Phase

The geological and topographical features of the Eastern Suburbium itself have already been discussed above (see § 2.2). The most convenient place to study the natural environment of the immediate surroundings of the area under study is the Central Depression, where − due to the geological and topographical features of the area − several meters of soil could accumulate. In 2002, the pollen from two drill-cores[278], extracted from the centre of the Central Depression[279], were analysed in order to provide information about the natural vegetation pattern near the site (**Fig. 4.2**).[280] The cores that were analysed did not reach the underlying ophiolitic clay soil, but did reach the palaeosol that had formed on top of it. This buried soil, however, did not procure any pollen, which made it impossible to reconstruct the vegetation of the immediate surroundings for (pre-)Hellenistic times.[281] The data show, however, that the slopes above Sagalassos were covered with cedar forest (*Cedrus libani*), possibly mixed with pine (*Pinus*) and Taurus fir (*Abies cilicica*) throughout Late Hellenistic and Early Roman Imperial times, while the lower slopes also contained broad-leaved trees as oak (*Quercus*), poplar (*Populus*) and olive (*Olea eurpaea*). There is no direct proof that these forests surrounding the city had been there in the preceding centuries, but Arrian's description of the conquest of Sagalassos by Alexander the Great seems to imply the presence of dense woods around the city.[282] It is suggested that the presence of forests on the alpine Taurus terraces might have been one of the driving factors for the settlement of Sagalassos: forests could temper extreme climatic conditions inherent to this altitude, they would prevent erosion from the upper mountain slopes and they would offer a source of wood indispensable for construction, heating and artisanal activities. This latter use of forests is particularly important for the Eastern Suburbium: wood was not only needed for the construction of the workshops and as fuel for the potters' kilns, but also in the furnaces of the assumed metal

Herodotos mentions 'Pisidians' as part of Xerxes' army (Herodotos *Histories*, 7.72); Xenophon (*c.* 430-354 BC) is the first one to mention the region 'Pisidia' (Xenophon *Anabasis* 1.1.11; *Hellenica*, 3.1.13) and the geographer Artemidoros (2nd-1st century BC) the first one to list up the Pisidian cities (as quoted by Strabo in his *Geographica* XII, 7.3 (570)). The 'Solymoi', however, cannot be identified with the 'Pisidians' in general. The safest way to describe 'Pisidians' is as 'inhabitants of Pisidia', but also defining the borders of this region remains a matter of dispute (Bracke 1993, 16; Vanhaverbeke *et al.* 2010, 122-123).

[274] Bracke 1993, 16.

[275] Vanhaverbeke *et al.* 2010, 122-123.

[276] Bracke 1993, 20.

[277] Research on the ancient DNA of the Sagalassos population is currently done by Claudio Ottoni of the Forensic Biomedical Sciences group at the University of Leuven.

[278] The PQ01 and PQ99 profiles were sampled with the motorized Eijkelkamp percussion drill: the 4.50 m deep PQ99 core in 1999 by dr. Jeroen Poblome and dr. Patrick Degryse and the 6.40 m deep PQ01 core in 2001 by prof. dr. Etienne Paulissen and dr. Simon Six (Laboratory of Geomorphology and Regional Geography at the University of Leuven). Core PQ99 was sampled every half meter between a depth of 1.5 and 4.5 m, while core PQ01 was sampled in greater detail.

[279] Pollen analytic studies from archaeological contexts are still rather scarce, especially from Eastern Mediterranean regions. The study of pollen has the advantage over the study of macro remains and charcoal, in the sense that the latter is more likely to be biased by products imported into the area, in which case they would not reflect the vegetation in the immediate surroundings. It is stated that the specific location of the Central Depression core makes it a reliable representation of the vegetation in the Eastern Suburbium proper, since the topographical isolation of the area would prevent the intrusion of 'foreign' pollen. Indeed, while the mountain range to the north, nowadays itself largely devoid of trees, would prevent the intrusion of foreign pollen from the valleys to the north, the steep, rocky slopes along the other sides of the Eastern Suburbium would also shield the Central Depression from intrusive pollen from the Ağlasun valley to the south.

[280] Vermoere *et al.* 2003, 164-166; Vermoere 2004, 173-177.

[281] For an elaboration on the dating of the samples, see § 5.3.2.

[282] The defenders were able to escape the battle scenes thanks to their knowledge of the local paths (Arrian *Anabasis Alexandrou*, I.28.5). This which would make little sense on bare slopes, as is the situation mainly today, which would leave the fleeing soldiers exposed for kilometers (Waelkens & the Sagalassos team 1997, 235).

workshops. Marleen Vermoere, in fact, concluded that "[…] *the presence of forests might have been one of the triggering factors for the establishment of the industrial centre outside the monumental part of the city.* […] *It is likely that the wood was taken not from the hills above Sagalassos proper, but from the hills east of the city. The location of the potters' workshops near these areas may have saved time and money, and the forests above Sagalassos were saved from clearance.*"[283] On the other hand, excavations at site F on the northern slopes of the Eastern Suburbium revealed the presence of fossilised pre-occupational screes (accumulations of loose debris at the base of steeper slopes). Due to a lack of associated finds and dateable material it is difficult to put a date on these screes, but they seem to show that the slopes above Sagalassos were not always shielded from erosion in times preceding human occupation.

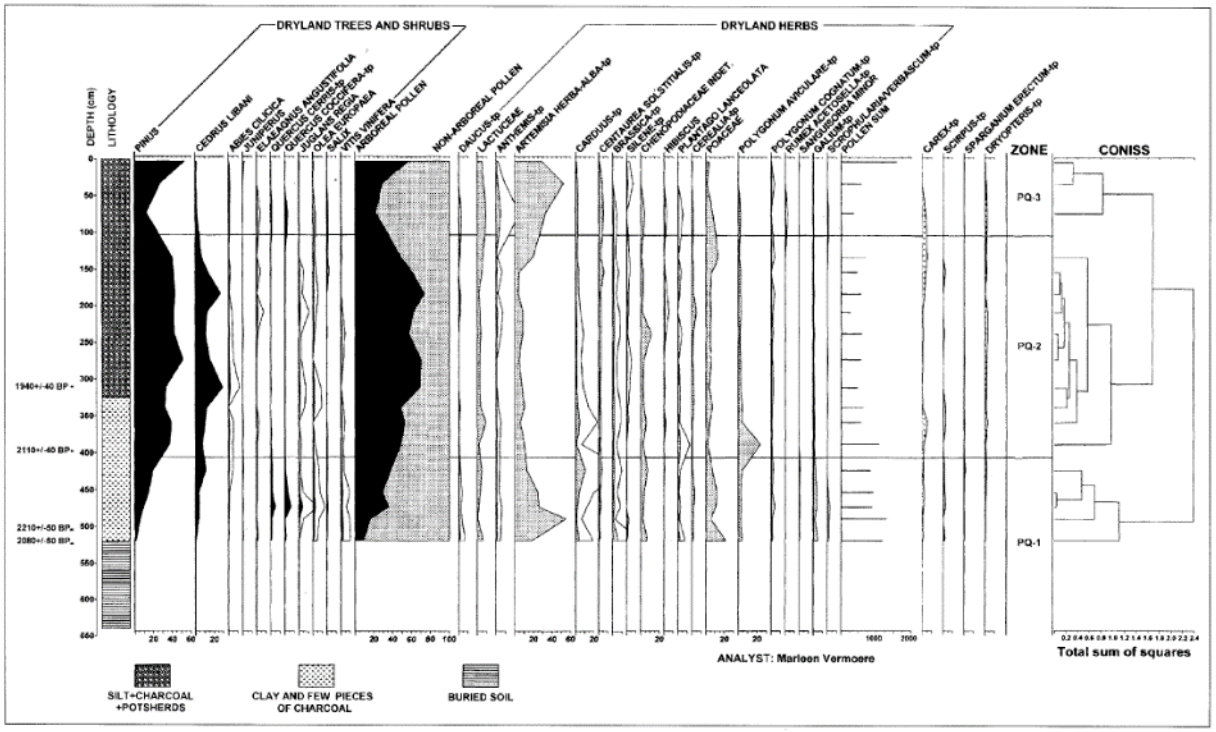


Fig. 4.2. Percentage pollen diagram from the 2002 PQ01 core taken in the Central Depression of the Eastern Suburbium. Only a selection of pollen types is shown. Vermoere 2003, 168 Fig. 6.

[283] Vermoere *et al.* 2003, 162-169.

5.1 Introduction

In the next paragraphs we will discuss the infrastructural (see § 5.2), artisanal (see § 5.3) and funerary (see § 5.4) presence within the Eastern Suburbium. The infrastructural paragraphs deal with the subdivision of the steeper slopes of the *proasteion* into terraces. Road network and water channels must to some extent also have been present during Hellenistic times, but since the next period (Early Imperial times) would see a more definitive development of street and water infrastructure, their discussion is reserved for the next chapter (see respectively § 5.2.1 and § 5.2.2). The artisanal paragraphs cover the limestone quarries (see § 5.3.1) and the clay mining activities in the Central Depression (see § 5.3.2). The funerary presence is represented by the terracotta urns (see § 5.4.2) and burial monument (see § 5.3.4) at site F and the *osteothekoi* found throughout the *proasteion* and adjacent areas (see § 5.3.3).

Most of the archaeological data for this chapter is derived from a few sites: the terracing and funerary remains have been documented at site F and the clay quarrying activities at site PQ 3 and in the Central Depression. This, however, does not mean that other sites were devoid of any Hellenistic presence, but rather that intensive structural interventions in subsequent periods destroyed most of the earlier evidence. This, for example, could be witnessed at the PQ coroplast workshops, where some Hellenistic waterpipes survived underneath and along the remains of the coroplast workshops. Other disciplines provided additional data: field surveys (especially the work done by Veli Köse on the *necropoleis*), geophysical survey of the Central Depression (especially through electric resistivity tomography), archaeological-geological surveys of the limestone quarries and physical anthropological work done on the human remains. This study is furthermore greatly indebted to the valuable work done by cartographers, geographers and geologists who studied and mapped the area in question.

It is only recently that the excavations in the Eastern Suburbium of Sagalassos could establish the presence of Classical features within the area (see further). Before these finds, the only meaningful assemblage of Classical pottery had been collected as surface finds during intensive field survey of the southwestern 'residential' quarter of the archaeological site.[284] The effect of occupation of the Eastern Suburbium for over a millennium makes that the earliest traces of human interferences are in most cases wiped clear or remain hidden and inaccessible underneath more recent features and structures. Moreover, large parts of the quarter – especially along the northern slopes – are covered by thick layers of post-occupational erosional screes. Since most of the attested constructions in the Eastern Suburbium were of a rather modest and temporary nature, there was probably more subsequent building activity throughout the Eastern Suburbium than in the monumental heart of the city, where many 'eternal' buildings were constructed. However, the topographical characteristics of the steeper northern slopes of the occupied area required spatial arrangements in the form of terraces in order to organise the space and to prevent erosion. As a result there was a constant need to keep the terrace walls intact and despite many reparation phases several original sections of these walls are still preserved to this day.[285]

(Late) Classical and Hellenistic times are considered here as one period because of the relative scarcity of the material. However, it is clear that the period could in fact be subdivided further. While there are strong indications for clay quarrying, deforestation and terracing (most likely for agriculture) possibly from Late Classical times onwards, there is no evidence for stone quarrying or funeral activities before Mid Hellenistic times. This distinction can be meaningful, especially when considering the developments within the town centre itself, where from Mid Hellenistic times onwards the first monumental architectural investments appear in the form of

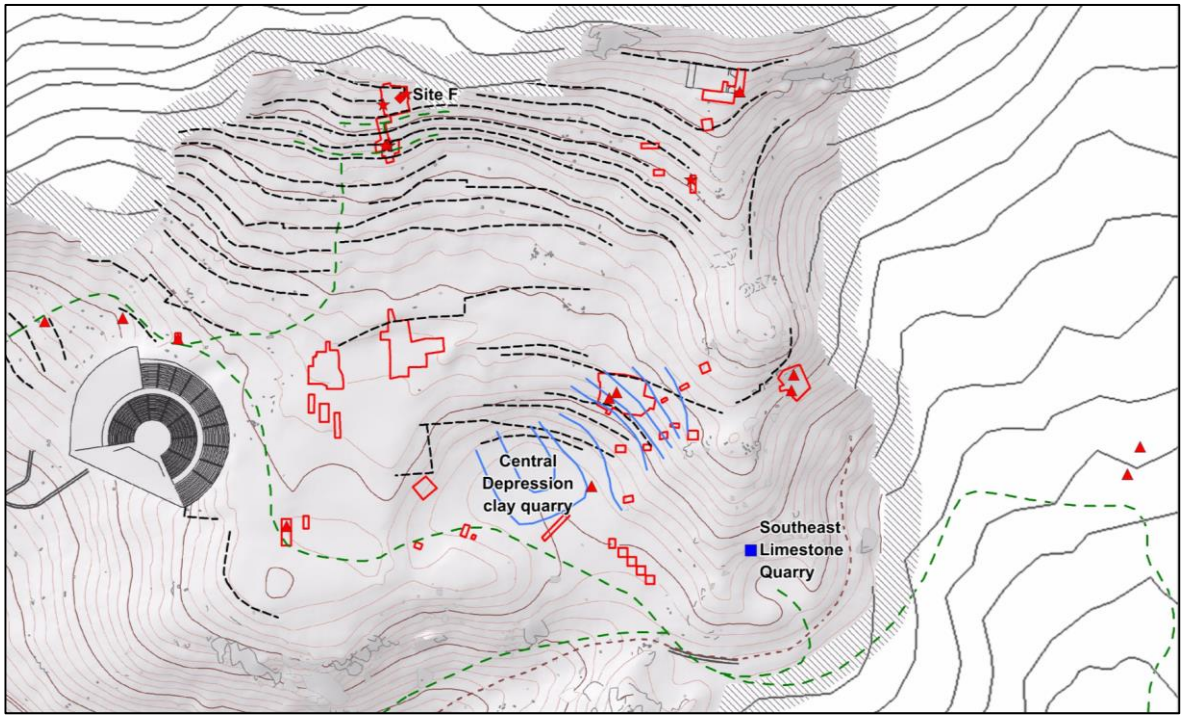
[284] The survey of the southwestern residential quarter is described in Martens *et al.* 2008, even though the resulting assemblages are not published yet; Poblome 2011, 528.

[285] Ironically it is thanks to (possibly even rather recent) erosional processes that these walls are now kept at least partially intact underneath several layers of soil, scree slopes and shifting packages of pottery dumps.

city walls and a sizeable market building (see § 1.2). These changes in the centre, symbolising the transition from village to regional urban centre, also have as a consequence that the Eastern Suburbium could develop into an actual '*pro-asteion*' (see § 1.3). Indeed, also the area occupied by the later Library (site LE) yielded contexts that date back to Hellenistic times[286], showing that urban activities might already have expanded beyond the 'classic' centre in those times. The gradual layout of a funerary quarter and the exploitation of a large limestone quarry should probably be understood in the light of these developments.

As is the case with the other chapters of Part 2 of this thesis, the the overarching discussions will be reserved for Ch. 10, in which the data presented in detail in these chapters can be reflected not only against the wider geographical and historical setting, but can also be understood in a more trans-chronological framework.

For an overview of the chronological time periods, see **Tables A-B** in the 'General Remarks'.



Map displaying the major sites and features mentioned throughout Ch. 5. The outlines of the excavated trenches are indicated in red, the (presumed) street in dashed green lines, the (presumed) terraces in dashed black lines, the quarry activities in blue and the funerary features in red (oteothekes with triangles, terracotta urns with stars and the site F burial monument with a diamond).

[286] LE 2015 internal report by Hendrik Uleners and Jeroen Poblome.

5.2 Infrastructure: organisation of the Eastern Suburbium in terraces[287]

The microrelief of the central Eastern Suburbium is characterised in general by a rolling topography interbedded with small steps, mostly east-west oriented. Excavations and geophysical survey revealed that these steps coincide with burried, degraded anthropogenic structures[288], especially terrace walls. Terraces were also present along the northern edges of the quarter, but completely hidden in the current topography by thick layers of post-occupational screes. Indeed, the oldest structural features within the Eastern Suburbium, and in a wider setting within the whole of Sagalassos, were encountered during excavations at site F. This site is located central-north in the Eastern Suburbium; an area not covered by the original geophysical survey because of the steepness of the slopes and thickness of the post-occupational erosional screes.[289] In 1990 and 1991 two trenches were dug transverse to the mountain slope at site F (**Fig. 5.1** and **Attachments 1-2**). The northern trench (excavated in 1990) was 20 m long and 4 m wide; the southern trench was 25 m long and originally 2 m wide during the 1990 campaign, but extended to 4 m during the 1991 campaign. The northeastern corner of the southern trench coincided with the southwestern corner of the northern trench. The orientation of the trenches was north-northwest to south-southeast, perpendicular to the elevation lines in this part of the Eastern Suburbium. The average gradient at this location is *c.* 30 %, with a difference in height between 1,605 m asl at the southernmost and 1,618 m asl at the northernmost end. The area is mainly covered with ancient and recent scree deposits, which made both geophysical and field survey of this part of the Eastern Suburbium less feasible. Outcropping at various parts are the shifted remains of dumps of pottery waste; one specific dump was located within a small structure of which most of the vault was still standing. This specific context, which would turn out to be a vaulted tomb (see § 8.3.1), gave the onset for opening a trench at site F in 1990.[290]

Within the in total 45 m long trenches dug in 1990-1991 at site F, a series of consecutive walls was documented that cut the trenches west-southwest to east-northeast and thus parallel to the elevation lines at this particular part of the Eastern Suburbium. After additional excavations at site F in 2011 and 2012 at least four of these walls could be identified as retaining terrace walls (**Fig. 5.1**). Two other walls had different structural characteristics and might rather be considered as enclosure or boundary walls. During the 2011 and 2012 field campaigns the full face of two of these terrace walls could be exposed and studied (**Fig. 5.2** and **Fig. 5.7**), while soundings were executed behind these walls, in order to gather dating criteria (see also § 5.1.3), to establish their structural characteristics and whether or not to confirm their identification as retaining terracing walls.

[287] Most of the data mentioned in this paragraphes is retrieved from the excavations at site F, excavated in 1990-1991 and 2011-2012. The site has been discussed in concise form in consecutive *Kazı Sonuçları Toplantısı* proceedings as well as in *Anatolian Studies* and *Asia Minor Studien* (Waelkens *et al.* 1991a, Waelkens *et al.* 1991b, Waelkens *et al.* 1992, Waelkens 1992, Claeys & Poblome 2012a). Most of the data, however, is retrieved from internal preliminary excavation reports.

[288] Six 2004, 161.

[289] Because the 1990-1991 and 2011-2012 excavations at site F attested the presence of densely occupied terraces, additional geophysical survey was done in 2012 transverse to these terraces. This survey covered a 40 m (north-south) by 13/17 m (east-west) stretch of land parallel to and *c.* 5 m west of site F. The results are presented in an unpublished field report by Branko Mušič.

[290] The name 'F' is referring to this specific pottery dump. During the first systematic surveys at Sagalassos, in the late 1980', several pottery dumps visble at the surface were identified throughout the site and numbered A-M. Site D is another example of this subdivision into specific concentrations. The results have not been published (personal communication with Marc Lodewijckx, responsible for the first Sagalassos pottery studies).

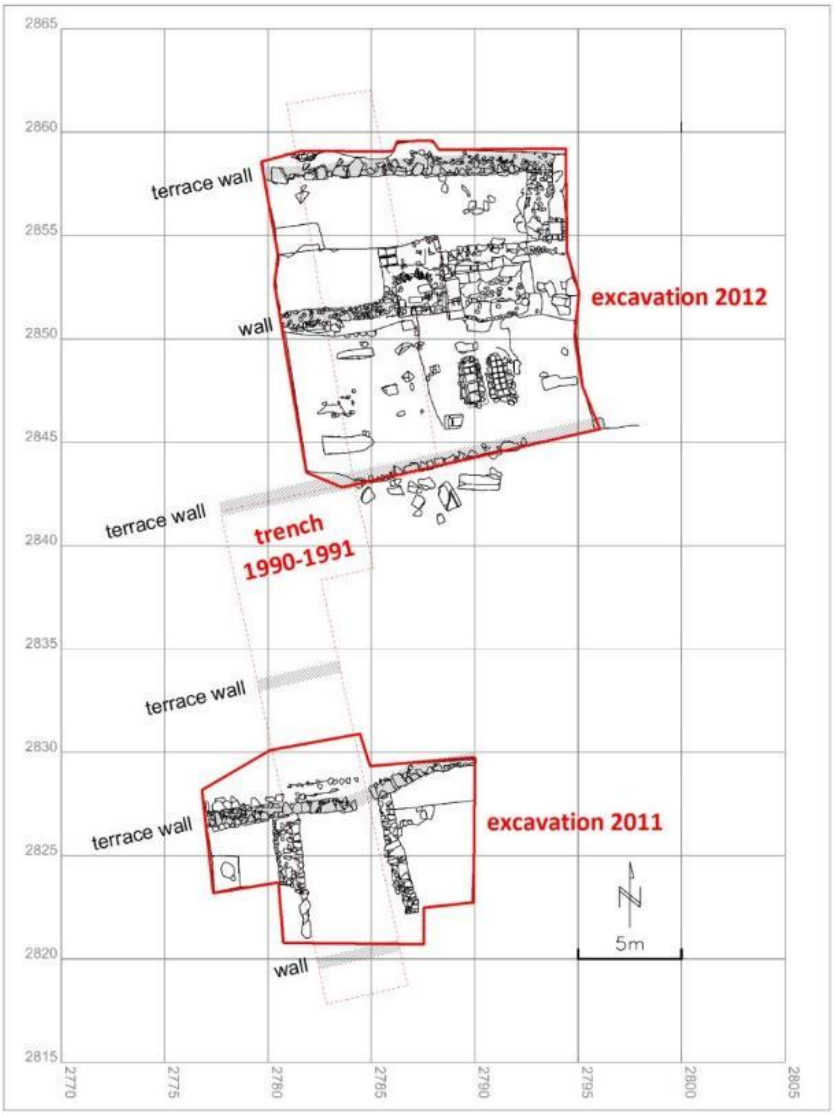


Fig. 5.1. Site F. Overview of the 1990-1991 excavation trenches (dotted red line) and 2011-2012 extensive excavations (full red line). The consecutive (terrace) walls are shaded. The walls encountered within the 1990-1991 trenches were never drawn architecturally and are here represented approximately, but the regular intervals in which they appear (on average every 7.5 m) is obvious. See also Attachments 1 and 2.

5.2.1 The terrace wall in the southern trench of site F

The terrace wall within the 2011 excavation trench (southern trench) was a dry limestone rubble wall, constructed of medium to large-sized fieldstones fitted together without use of a binding agent (**Figs. 5.2**/**5.4**-**5.6** and **Attachment 1**). The wall could be traced over a distance of 13.5 m, but appeared to continue beyond the borders of the trench in both eastern and western directions.[291] The western half is east-west oriented, but the wall shows a slight offset halfway and the eastern half follows a more west-southwest to east-northeast orientation, mirroring the curves of the slope. At the point of the offset, the builders made use of an outcrop of a compacted 'fossilised' scree deposit as foundation for what most probably might have been a stepping arrangement between terraces. Several collapsed large and middle-sized limestone blocks were found while

[291] However, the presumed continuation of this terrace wall in western direction did not show up during an additional geophysical survey, executed in 2012 at no more than 3.5 m west of the western profile of the excavation trench. The terrace wall immediately north of it, meanwhile, did register distinctly during the same geophysical survey (personal communication with B. Mušič, head of the geophysical survey team).

excavating, dispersed in front of this section of the terrace wall. The presence of a staircase between two terraces would also explain why this area never seems to have been covered by a roof (see § 5.3.2). The wall was preserved to a height of 1.85 m in the west but only 1.35 m centrally, where the underlying scree/bedrock outcrops at a higher level (the difference of *c.* 0.45 m accounts for the difference in height; indeed, the preserved upper layer of stones of the terrace wall is indeed more or less level over the whole visible length of the wall).

To establish the construction characteristics and gather dating criteria for this wall, it was necessary to study the stratigraphy behind it, which means north and thus upslope. The sounding was executed over a length of 8.5 m and soon made it clear that the identification of the wall as a 'retaining gravity' terrace wall was justified: the wall has a rather regular southern façade, but at the backside the large, unworked limestone blocks grip into the compact scree/bedrock and soil fill behind and underneath the wall. This made the wall only functional when the back of the wall was burried onto the level of the top of the wall, thus creating terraces and holding the soil back by its own weight. This type of 'retaining gravity' wall is relatively easy to topple, as the internal leverage of the earth pressure is very high. This is why terrace walls are generally erected in a structurally more sound fashion than most boundary walls, with large (unworked) stones fitted rather neatly together. In order to build a solid construction, the scree/bedrock had to be quarried to create a profile against which the lower rows of stones could be fitted. A retaining wall of the gravity type normally has a wider base, but it appears here to be largely depending on the receding or protruding nature of the scree/bedrock behind it.

The sounding behind this terrace wall also served to establish a construction date for the structure. In the western and central parts of the sounding there were no safe options to reach the foundation layer of the terrace wall. However, close to the eastern edge of the sounding, at the spot where the wall resumes beyond the 'offset', finds could be recovered from a deposit behind the wall (**Fig. 5.5**). Even though this deposit was wedged in at a depth of no more than 0.45-0.60 m below topsoil, it was immediately topping the natural scree deposits underneath. This 'fossilised' scree was partially cut and levelled in order to accommodate the terrace wall, so that the backside of the wall would grip into the scree behind and underneath. Both stratigraphy and architecture seem to suggest that the wall has not been rebuilt; the opposite is true for the western part of the wall, where both finds from the sounding as well as the layout of this section indicate more than one (re)building phase (see the drawings of the wall's top view and facade in **Figs. 5.2/5.4**-**5.6**, see also § 6.2.1). The upper half of this wall section is indeed slightly offset and receding from the lower half of the wall. The fill behind the lower half could not safely be reached by means of a sounding.

The deposit consisted of a small lenzing, buried partially underneath the upper preserved row of stones of the terrace wall, which at this part of the wall neatly joints with the scree behind and below. Apart from a concentration of ceramics, the deposit contained some charcoal and unworked faunal remains (animal bone and seashells). The ceramics formed a homogeneous package of Late Classical – Early Hellenistic sherds (later 5th to the early 3rd century BC), with no younger intrusive material (**Fig. 5.5**). The dates for the finds are based on their typology – studied by Jeroen Poblome – while their fabric ('Fabric 4') is a type of coarse ware from which mostly cooking and storage/transport vessels were produced.[292] This type of raw clay material remains in use throughout most of the history of Sagalassos. The nature of the clay used for Fabric 4 is compatible with the clays that were mined in the Central Depression of the Eastern Suburbium[293], but other local clay sources were most probably exploited as well near Düzen Tepe, Sagalassos and in the central part of the Ağlasun valley.[294] Analysis of the ceramic finds show that the only other Classical/Hellenistic sherds from this fabric have been encountered during intensive survey of the western residential quarter of Sagalassos.[295]

[292] Degeest 2000.
[293] Degryse *et al.* 2003, 270-275, 277-278.
[294] Braekmans *et al.* 2011, 39-40; Neyt *et al.* 2012, 1304.
[295] These survey results are as yet unpublished, but some of the sherds have been sampled in order to study their fabric (Neyt *et al.* 2012, 1298).

Fig. 5.2 a/b. Map and aerial picture of site F during the 2011 extensive excavation. The dotted red line indicates the approximate extend of the 1990-1991 excavation trenches. See Attachment 1 for more detail.

Fig. 5.3 a/b. Map and aerial picture of site F during the 2012 extensive excavations. The dotted red line indicates the approximate extend of the 1990-1991 excavation trenches. See Attachment 2 for more detail.

Fig. 5.4. The middle section of the terrace wall as exposed anew during the 2011 extensive excavation at site F. The missing part of the wall at the right side of the picture was possibly a stepping arrangement to reach the higher terrace; several large blocks were found loose in the rubble fill in front of that part of the wall. The lower wall perpendicular to the terrace wall is a Roman Imperial addition (see § 6.2).

Fig. 5.5 a/b. Selection of the Classical finds from a closec context in the fill behind a terrace wall at site F.

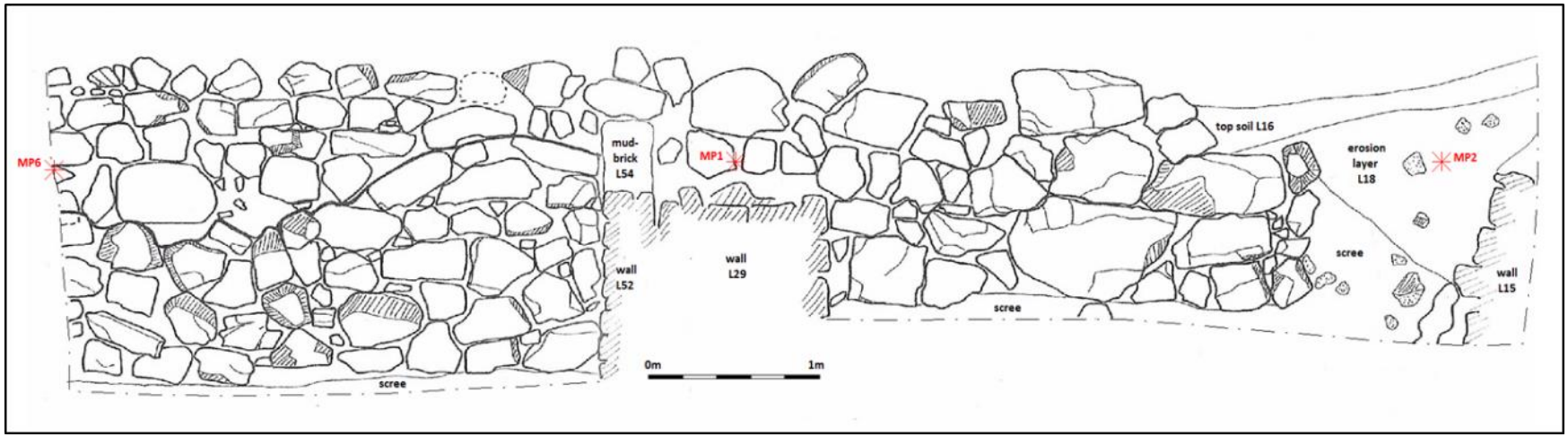


Fig. 5.6. Drawing of the southern face of the terrace wall as exposed during the 2011 extensive excavation at site F. The upper half of the western part of the wall, slightly offset and receding from the lower half, was rebuilt at least once in Early Roman Imperial times. The thicker black line indicates the division between the presumed original lower part and the more recent upper part. On the other hand, the eastern part (and possibly the central part of the wall) appears to be dating to its original building phase in Classical times. The face of the eastern part of the wall was never exposed and only documented in top view (Fig. 5.2 and Attachment 1).

Fig. 5.7. The terrace wall north of the 2012 excavation, view from the southwest. The wall has been assembled with great care, attested by the size of the stones, the closely fitted joints between them and relative smoothness of the face. The applied building technique, however, is not different. The slight indentation and the lack of topsoil at the west end of the north profile are the only traces of the 1990-1991 excavation trench.

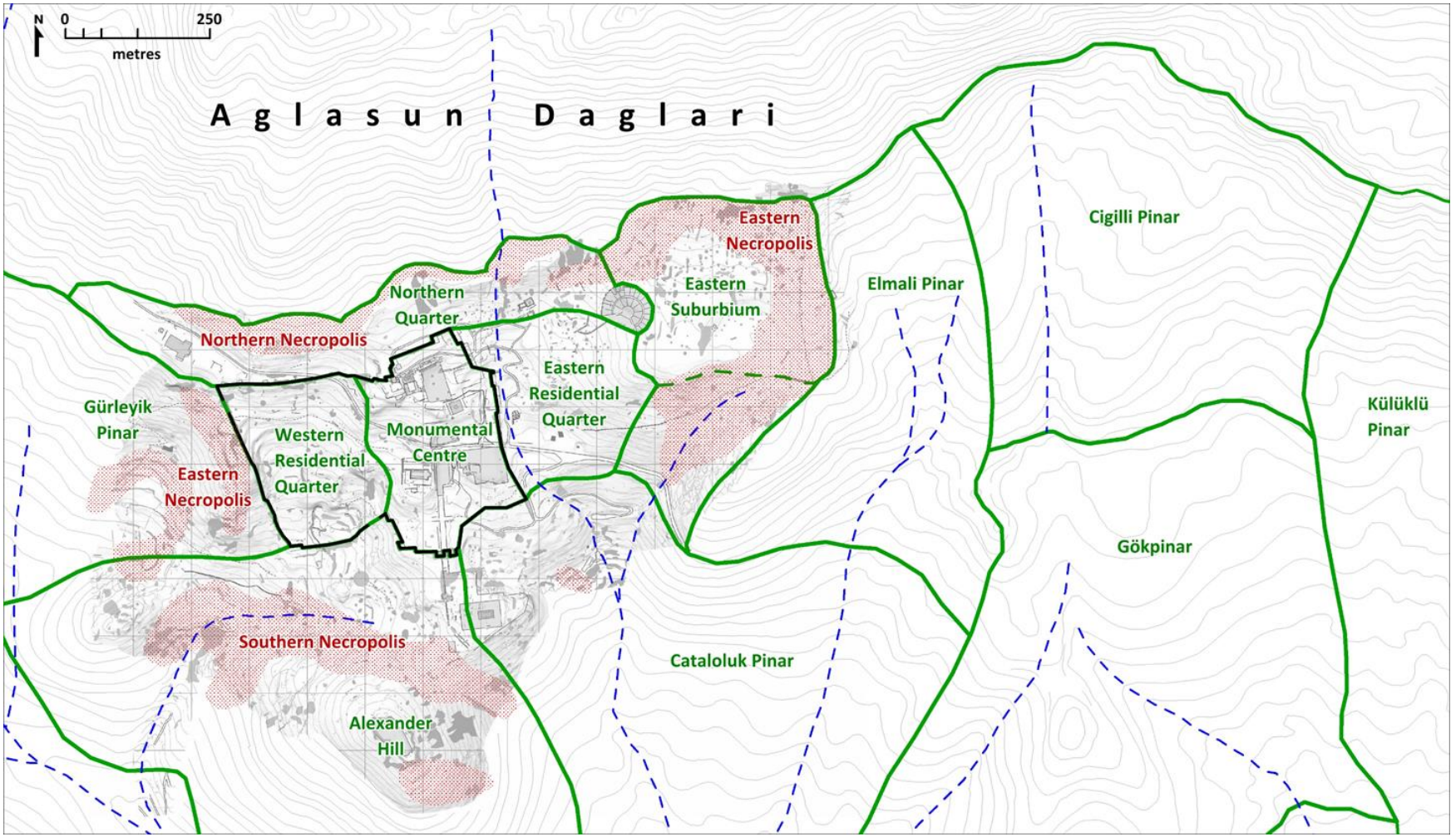


Fig. 5.8. The Eastern Suburbium of Sagalassos in relation to its surrounding topography. Throughout this dissertation we attempt to refer to the areas adjacent to the Eastern Suburbium, both urban and rural, in an unambiguous manner. The 'urban' parts of the city are subdivided into the (simplified) conventional main quarters: the monumental centre, the eastern and western residential quarters and a more artificially created northern quarter. The city walls are indicated in black. The 'rural' areas are subdivided into the catchment areas (green) of the seasonal streams (blue dotted lines) and attributed with their Turkish names: Gürleyik Pınar, İskender Tepesi (Alexander Hill), Çataloluk Pınar, Elmalı Pınar, Çiğilli Pınar, Gökpınar and Külüklü Pınar. The *necropoleis* (red) surrounding the city are not restricted to these topographical zones, but can nevertheless be broadly attributed to specific areas.

5.2.2 The terrace wall in the northern trench of site F

The second stretch of wall that could be documented was encountered along the northern edge of the 2012 excavation trench at site F (**Fig. 5.3**, **Fig. 5.7** and **Attachment 2**). It is a dry limestone rubble wall, constructed of mainly large fieldstones fitted together without binding agent. This wall closely follows the local topography and thus runs parallel to the other identified terrace walls. The wall was exposed over a distance of 14 m. At its heighest point it still stood 1.90 m tall, but its original height appears to have been even more. Most of the western part of the wall is no longer standing. The lack of collapse encountered in front of the wall suggests that that section of the wall was partially dismantled. Large and medium-sized limestone blocks have been found in a concentration immediately upslope from the wall (**Fig. 5.3 b**).

More care appears to have been spent in the execution of the construction, with the unworked blocks very carefully fitted together and forming a rather smooth southern face. But the main difference with the other terrace walls appears to be its discontinuity: it stops short of the northeast corner of the trench, where a perpendicular, evenly heavy set wall abuts it and juts out towards the south (downslope). This wall is similar in construction style but has both a western and eastern façade. These characteristics – both the care in execution and the sudden cut with a perpendicular wall – seem to make this particular wall stand out from the terrace walls below. But its location on these steep slopes and its orientation parallel to the elevation lines nevertheless result in the observation that the wall must have functioned as a retaining terracing wall as well, regardless of any other combined purposes.

Indeed, as was the case with the above described terrace wall at the southern trench of site F, this wall only possesses one, southern facade, while the backside of the wall grips into the soil and scree behind for extra strength. The obvious attention for detail that was spent in constructing the wall might be explained both by its size and by the observation that this is the highest (attested) terrace wall in the whole quarter; this wall would thus have to shelter all terraces below from erosion. The roughly laid-out bottom row of stones protrudes from the rest of the wall, most obviously towards the eastern half of the exposed wall. It appears to serve as a foundation layer, but might also be interpreted as remains of an earlier building phase. An attempt was made to perform a sounding behind the wall. Unfortunately, there was not a safe way to reach the 'foundation level' and the lack of fill on the front side of the wall, which was cut into natural layers, did not provide any dateable artefacts. A sounding behind the largely dismantled western half of the wall provided several Hellenistic sherds from the bottom layer, along with some Early Roman Imperial fragments. The presence of Late Hellenistic features (a ceramic cremation urn and ashlar funerary monument, see § 5.4.4) on the terrace below, however, implies that the wall dates from before their constructions, *i.c.* from Classical or Early/Mid Hellenistic times. The presence of Early Roman Imperial sherds may reflect maintenance or the actual dismantling of the wall (very few limestone blocks were encountered in the surrounding layers).

The abrupt stop at its eastern end can be considered a weak point in a structure deemed to hold back erosion and to withstand the pressure from the above slope. The abutting wall stands perpendicular to the terrace wall at this point and continues towards the south. The fact that the perpendicular wall appears to abut the terrace wall can mean that it is a later addition. On the other hand the similarities in building style (including the protruding bottom foundation layer of stones) and the almost seamless interface between both walls (making it hard to establish whether or not they are interlocked) suggest that both walls were conceived in one building operation. This 1.25 m wide and 3.45 m long perpendicular wall should most probably be regarded as a robust buttress or 'rib wall' to the 'spine' that is the retaining terrace wall. Its construction would have been a necessary intervention in order to shore up the terrace wall at its weakest point. The reason for the sudden conclusion of the highest known terrace wall must probably be found in what lies east of this point. Maybe the original local topography, now hidden from view by post-occupational scree deposits, would have prevented the continuation of the terrace. The geological map of the area, as composed by Katrijn Dirix, indeed shows a limestone outcrop

to the east of site F, while the rest of the surroundings are occupied by 'limestone soil'.[296] Within the 2012 excavation trench, the space immediately south of the 'rib wall' was the only part of the excavation that did not produce archaeological features. The area was instead occupied by large limestone blocks cemented into the natural fossilised scree underneath (**Fig. 5.3 b**) and was apparently never cleared for human occupation.

5.2.3 Discussions on the suburban terraces

The terracing system at site F

Dating terracing systems constitutes a real challenge for archaeology. The relative simplicity in construction, their use throughout consecutive historical periods and the scarcity of datable assemblages that can directly be linked to the construction phase make dating rather problematic.[297] Comparable data from southwest Anatolia are not at hand, but research in similar topgraphical and climatic conditions in ancient Greece and the Aegean Islands provides some clues. Scholars of these areas have suggested no less than nine criteria for dating ancient terraces, which in decreasing order of accuracy are: 1) datable material in foundation fill; 2) age of trees on terraces; 3) construction style; 4) similarities in construction style with adjacent structures, 5) terraces built against ancient structures; 6) extent and type of lichenization of terraces; 7) state of degradation; 8) terrace system as part of a 'relict landscape' and 9) association with known periods of great pressure on agricultural resources (this last criterion is based on the assumption that populations will only revert to agricultural terracing in case of population pressure and subsequent need for additional arable lands).[298]

In the specific case of the Eastern Suburbium of Sagalassos, where most terraces are actually encountered in excavations and could not be discerned by field survey[299], we would add one additional factor to the dating criteria: the erosional layers that cover the terraces provide a *terminus ante quem* for the period of use of the terraces (and thus obviously also for their construction date). Apart from this, the dating criteria for the Eastern Suburbium terraces mainly revolve around criteria 1, 3 and 5. But we rather interpret criterion 5 as 'dateable structures/features held within terrace system', with the additional condition that these structures/features could not have been installed without the presence of terraces (burials that would have eroded, monuments that would have needed more solid foundations, *etc.*). This criterion, in our opinion, carries more weight as a dating argument and would considerably move up the 'criteria scale'.

Practically, the construction date of the site F terraces can be dated on the basis of artefact assemblages retrieved from soundings behind terrace walls at both the 2011 and 2012 trenches, on the basis of their construction technique and – as a *terminus post quem* – on the basis of the funerary features and other infrastructure attested throughout site F. While only one section of one of the terrace walls at site F could be dated to the Late Classical / Early Hellenistic period by its foundation fill assemblage, the factor of interdependence between the terraces is a strong argument for dating the layout of the other terraces to the same period. After all, they can only function in a series of subsequent terraces in which each terrace protects the one below from erosion and sedimentation. Their construction might have happened gradually and, in principle, the terrace walls in the periphery can have been added during later phases. With this in mind it is not unlikely that the most northern exposed terrace wall (see previous paragraph) was erected in Hellenistic times, as the sherds found in the sounding behind (a dismantled part of) the wall seem to suggest.

[296] Dirix 2013a, 235 Fig. 1; Dirix 2014, 128 Fig. 128.
[297] Davidovich *et al.* 2012, 192.
[298] Price & Nixon 2005, 6-7.
[299] There are still slight 'steps' perceivable in the microtopography of the central Eastern Suburbium (Six 2004, 161), which can be linked with buried terrace walls. However, this type of visible data is no direct evidence; it could only be confirmed through excavations and geophysical survey.

The argument that dry walls erected from larger stones generally date to more ancient times is generally mentioned in studies on terracing in Greek contexts, *e.g.* to distinguish them from the more modern Venetian-Turkish terrace walls.[300] At Sagalassos, it has been assumed that walls in general erected in dry rubble (polygonal) masonry, making use of large stones, were limited to the Hellenistic period.[301] While this hypothesis needed to be somewhat revised after the discovery of the above-mentioned Late Classical / Early Hellenistic terrace walls and an Early Roman Imperial burial compound (also in the Eastern Suburbium, see § 6.4.2), this building technology indeed seems to disappear in later Roman times.

The third major criterion for dating the site F terraces is the presence of a variety of early features on the terraces that relied on the presence of the terrace system in order to be installed. In practice this includes various funerary remains dating to Mid and Late Hellenistic times (see § 5.4), *i.c.* a series of Mid Hellenistic cremation urns *in situ* aligned along the terrace wall at the southern trench of site F (see § 5.4.2) and a probably Late Hellenistic ashlar funerary monument (see § 5.4.4) and an additional cremation urn in the northern trench of site F (see § 5.4.2). All criteria thus seem to point towards a starting date for the layouting of the site F terracing system in Late Classical / Early Hellenistic times, with possibly additions well into Late Hellenistic times.

There are clear indications that these terracing walls underwent many interventions over the centuries (more than a millennium) that they have served. It is already mentioned above that this type of retaining wall is vulnerable and easy to topple; recurrent phases of maintenance and reparation and/or partial reconstruction would have been necessary. The terrace wall studied in the 2011 trench of site F, for example, clearly shows different phases of (re)construction (**Fig. 5.2, Fig. 5.6** and **Attachment 1**). There are also indications that the northern terrace wall in the 2012 trench of site F was partially dismantled. This last intervention must have happened very late in the history of the Eastern Suburbium, since this would have jeopardised the continued existence of all ongoing activities downslope. Most of the terrace walls appear to have remained largely intact, however, as can be deduced from the uniform level of their upper stone row (*e.g.* the southern terrace wall of the 2012 trench at site F and sections of the terrace wall of the 2011 trench at site F) and from the state of preservation of the features and structures on the terraces.[302] After serving for more than a millennium, these terraces would in post-occupational times be engulfed by erosional screes, which would protect them from further damage. But the screes themselves do not seem to have toppled any of the terrace walls.

The original height of these terrace walls can be calculated approximately. Since the aim of terracing is to create more or less level, 'workable' surfaces, the accumulated height of the consecutive terrace walls must have approached the total height difference of *c.* 12 m between the foot of the southernmost identified terrace wall and the alleged top of the northernmost identified terrace wall (which is respectively the central wall of the 2011 excavation trench and the northern wall of the 2012 excavation trench). Hence the five consecutive (terrace) walls must have had an average height of 2.4 m if they were to create level terraces. The original height of the northern wall at the 2012 trench of site F, for example, can indeed have exceeded 2 m, which might at least partially explain the care that was attributed to the construction of this wall. Nonetheless, the standing western section of the terrace wall in the 2011 trench of site F appears to be intact – an equal level of preservation of the top row of stones and lack of collapse encountered in front of the wall – and does not exceed 1.85 m in height. Moreover, in this calculation we are taking in account the wall south of the most northern exposed wall as a terrace wall, while it certainly was not constructed as a retaining wall. Indeed, the difference in height between the preserved levels of the terraces south and north of this wall does not exceed 1 m. The purpose of this wall

[300] Price & Nixon 2005, 7, 12: "[…] *pseudo-isodomic or even pseudo-trapezoidal terraces should be Classical* […]". "*Field archaeologists often claim antiquity for such terraces* [*i.e.* terraces built out of large stones], *but meet with skepticism from others.*"

[301] Loots 2001, 92-93; Degryse (ed.) 2007, 16.

[302] The uniform level op preservation is indeed a strong indication: all the terrace walls in the Eastern Suburbium are erected with large, unworked limestone blocks that do not form even stone layers. Only the upper layer forms a uniform level.

rather seems to have been to mark the boundaries between different parcels of land. This means that other walls would have to compensate in height, even though the higher the terrace wall, the more unstable it becomes.[303] One has to keep in mind, however, that the terraces themselves did not have to be completely level. It is calculated that slopes of less than *c.* 10 % were arable without the need for terracing.[304] At site F a slope of 10 % would account for an increase of on average 0.75 m per terrace, which would naturally also reduce the necessary height of the terrace walls. In any case, it seems that the walls dividing the terraces, whether retaining walls or boundary walls, were neither equal in height nor in building technique (**Figs. 5.9-5.10**).

The total width of the five terraces encompassed by these walls measures up to 37.5 m (north-south), thus each terrace is on average 7.5 m wide. Surmounting the steep gradient of the slope with more, but lower terraces and retaining walls would probably be unfeasible because the terraces themselves would become too narrow (even though terraces registered by Todd Whitelaw in Kea were on average between 2 and 4 m wide[305]). These five consecutive terraces are not only on average 7.5 m in width, each one actually has more or less equal dimensions, varying between *c.* 7 and 8.2 m. This relative regularity in width might be partially explained by a relatively equal inclination of the mountain slope and the need for sizeable, workable terraces. But in that case, the heights of the terrace walls would have been equally regular, which they are not. An additional observation at the 2012 trench of site F seems to consolidate this regularity: the upper terrace here is divided exactly in half broadwise, the southern half being occupied by burial monuments in later times (see § 5.4 and 7.4). The 3.45 m long 'rib wall' protruding from the northern terrace wall follows this internal terrace division as well.[306] The site F excavations, however, represent too small a sample of the whole of the Eastern Suburbium to actually claim that the northern slopes were intentionally terraced into regular units. There is a lack of other scientific data regarding the structural remains of these slopes, especially due to the limited added value that field and geophysical surveys can provide from these scree-covered hillsides. Some more results could be retrieved from the slope immediately northeast of the Theatre, where both field survey sightings[307] and the existing geophysical maps suggest that this part of the quarter was divided into terraces as well. But the results are too sketchy to draw any conclusions regarding the exact dimensions of their subdivision.

The terracing system throughout the Eastern Suburbium

Site F provides us with the best documented case study of terracing in the Eastern Suburbium, but it may be clear that this site represents only a small sample of all the terracing present throughout the quarter (**Fig. 5.11**). The walls attested at site F obviously extended in eastern and western direction beyond the boundaries of the excavation trenches. It can not be estimated how much of the northern slopes were incorporated into terracing, but the 2013 excavations at site PQ 5 (a church at the northeastern edge of the quarter) also exposed a stretch of terrace wall protruding in eastern direction from the northeastern corner of the church. Another indication is the presence of the Roman Imperial Eastern Aqueduct (see § 7.2.2) that crosses the Eastern Suburbium east-

[303] Terrace walls over 2 m in height have been registered by Todd Whitelaw in his surveys of the island of Kea (ancient Keos) (Whitelaw 1991, 405-406).

[304] Whitelaw 1998, 234. Moreover, terraces southeast of the Sagalassos city centre, still in use, have mean slopes of 8.4 ± 5.3 %, 9.1 ± 3.9 % and 11.4 ± 6.5 %, while being retained by terrace walls with respective mean heights of 1.38 ± 0.41 m, 1.82 ± 0.91 m and 1.28 ± 0.33 m. It is possible that the lower parts of these walls are hidden from view and that they originally might have been higher still (Six 2004, 174, 179).

[305] In his 1991 study Whitelaw specifically concentrated on medieval and modern terracing works at the island, but the practical implications of the heights and widths of terraces would not have been too dissimilar for ancient times (Whitelaw 1991, 105-406; Price & Nixon 2005, 11).

[306] In Roman times the most quoted dimensions for widths and depths of burial plots were between 10 and 15 feet (between 3 and 4.5 m) (Eck 1987; Hope 2007, 140, see also § 5.4). While this does not give any direct clues for the Classical-Hellenistic terraces in Sagalassos, it shows that these were reasonable dimensions for plots of land affordable for a typical family. While the question of supply and demand for land would of course vary throughout time and space, the basic conditions, means and needs of a modest family in a Classical-Hellenistic Pisidian town would not have been much unlike those of a Roman family in a provincial town a few centuries later.

[307] Observations made by the author during architectural surveys in 2013.

west along the northern slopes. The presence of terraces would have greatly facilitated the layout of the aqueduct, which required a very gradual inclination towards the city centre. At site F, the aqueduct was underset by one of the (probably already existing) terrace walls.

The existence of subsequent terraces is also strongly suggested immediately north of the Theatre, as evidenced from visible *in situ* structural remains and geophysical survey results. These terraces appear to fan out from the series of terraces along the northern slopes. They are estimated to be constructed at regular intervals, between 10 and 15 m apart, and with a northwest-southeast orientation following the local topography. The necessity for terracing would gradually diminish towards the centre of the Eastern Suburbium, where the slopes become increasingly moderate (see **Attachment 9**). But especially east-west oriented streets appear to have been propped up by walls, either along their southern edge (downslope) or on both sides of the road (see § 6.2.1). In many cases these terrace walls would have doubled as walls of constructions adjacent to the streets (see for example § 6.3.4 and § 8.3.2). The presence of terrace walls is also expected along the slopes around the Central Depression. There are no visible traces at the surface, but the geophysical survey shows several walls running parallel to the contour lines. Finally, there is at least one long, continuous terrace wall along the edge of the eastern ridge of the Eastern Suburbium. Many sections of this wall are still visible at the surface and they seem to align a street leading up to a possible (undated) 'spring sanctuary' immediately northeast of the quarter (see § 7.2.2).

There are less dating criteria available for the terrace walls elsewhere in the Eastern Suburbium, the presence of which was mostly based on survey data. But there are some terrace walls that were broached in excavations, *i.c.* north of the PQ coroplast workshops, northeast of the PQ 5 church and north of the PQ 1 east slope workshops. A section of the latter terrace wall was also exposed in one of the 1998 test trenches, where an Early Roman Imperial construction date was proposed (even though an earlier date cannot be excluded[308]). At none of these sites the foundation fills of the terrace walls had been excavated[309], but due to the structures build on top of the terraces or build against the terrace walls themselves solid *termini ante quos* are provided for the construction date of the walls. In the case of the east slope workshops the terrace wall thus has to predate the Early Roman Imperial workshop(s) at this location[310], at the coroplast workshops the terrace wall predates the late 1st century AD road laid out along the edge of the above terrace[311] and at the PQ 5 church site the terrace wall predates the 6th century AD church.[312] It is impossible to ascertain how much these terrace walls antedate the mentioned infrastructures; the wall at the PQ 5 site might, for example, be older than the terrace wall north of the east slope workshops at site PQ 1. But based on the cases mentioned above it is safe to say that in the steeper parts of the Eastern Suburbium any serious building activity needed to be preceded by terracing works, which would have included the construction of lasting terrace walls. Since Early Roman Imperial presence has been attested at all excavated sites throughout the quarter, it seems therefore fair to suggest that this suburban terracing system was for the most part fully fledged by the start of our era.

[308] PQ 1998 internal excavation report by Jeroen Poblome. The dating is based on ceramic deposits from the context adjacent to the wall. However, the back side of the wall – which could have provided more reliable evidence to date the structure – could not be excavated, as this was located beyond the edge of the test trench.

[309] Sounding foundation fills of terracing walls is particularly tricky and sometimes not feasible to execute. Because of their constructional characteristics there is not always a real foundation trench along the front side, which means that the foundation deposits have to be sought behind the wall. Because the remainders of these walls still serve their purpose in retaining the soil movement behind the walls, any excavation behind these walls weakens the terracing structure.

[310] Poblome 2003.

[311] Claeys 2012b.

[312] PQ 5 2013 internal excavation report by Peter Talloen and Bas Beaujean.

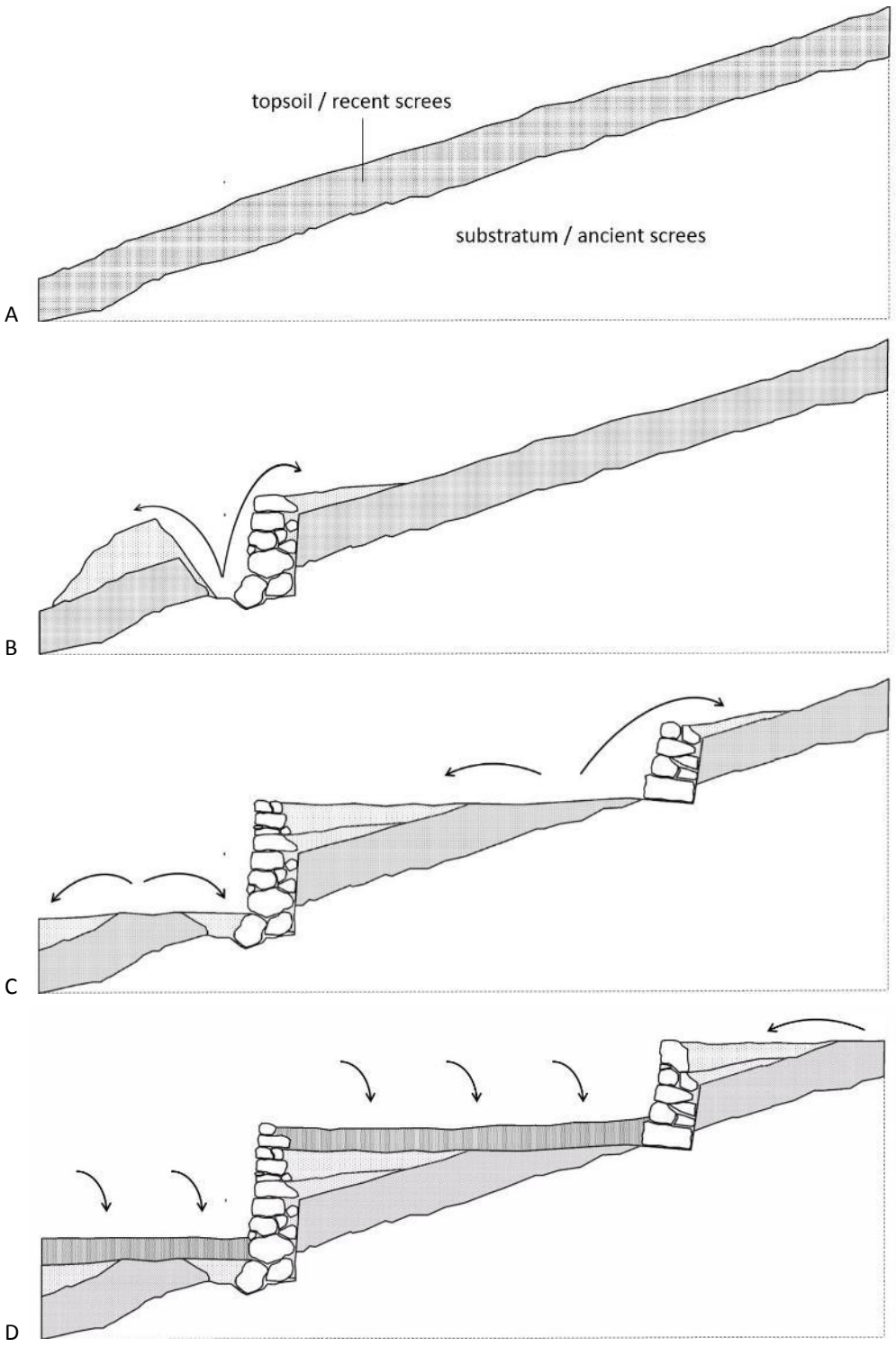


Fig. 5.9. Schematic reconstruction of the layout of the terracing system at site F. The foundation trenches for the terrace walls were cut through the topsoil and (partially) into the natural substratum, which consists mainly of fossilised screes (A). Unworked field stones, collected from the surface and/or the foundation trench, are used to erect the retaining terrace walls (B). The surplus of soil/rock is subsequently used to backfill the trench behind the wall and to start levelling the terrain. Whether there is an actual foundation trench along the front of the wall depends on the applied construction techniques (C). In order to create fertile, arable lands, additional soil might have been imported (D).[313]

[313] For construction techniques and reconstructions of ancient terrace, see a.o. Treacy & Denevan 1994 and Kendall 2005. Jennifer Moody and A.T. Grove (1990) mention two basic ways of contruction of terraces: 1) excavate a terrace into the

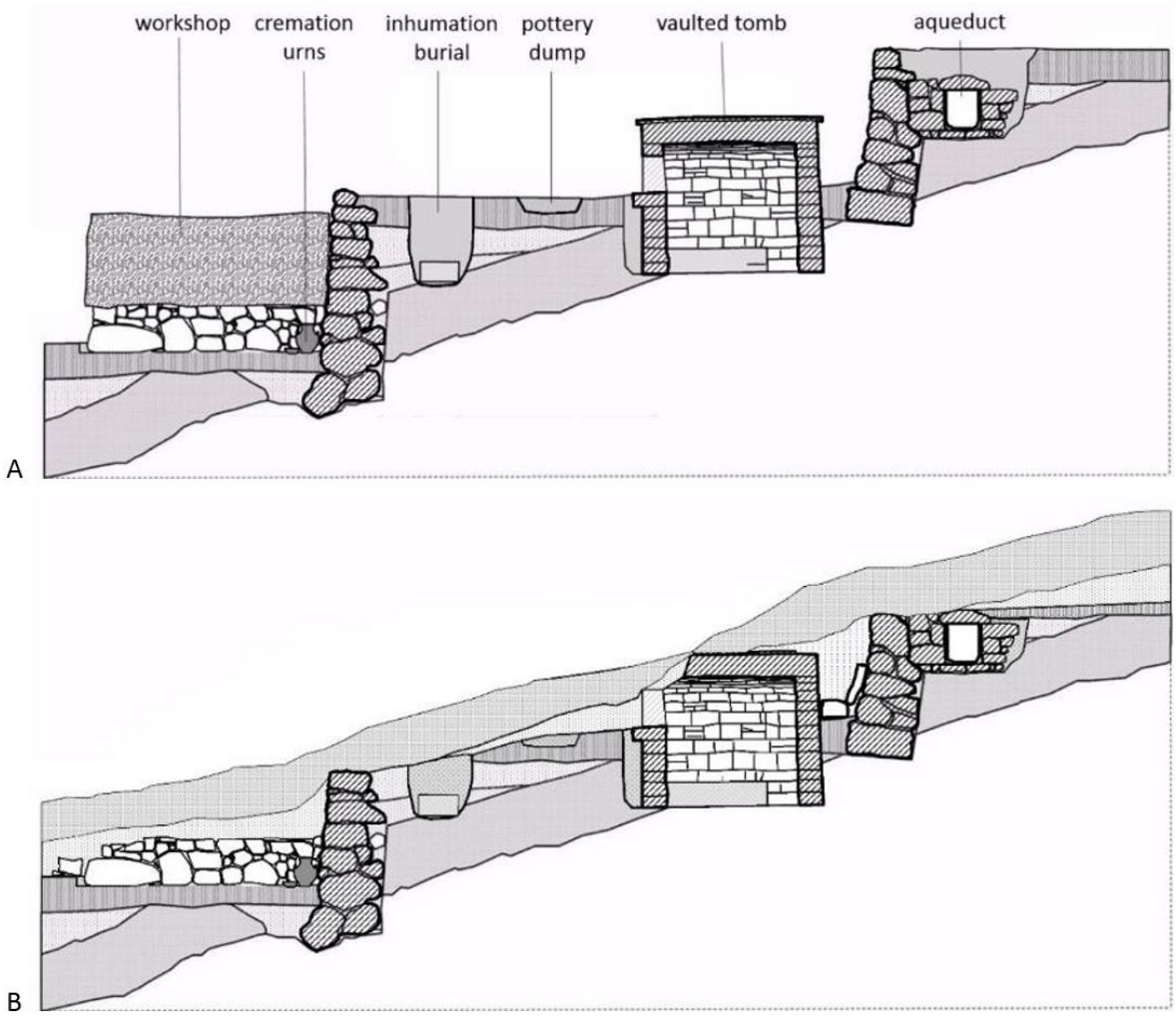


Fig. 5.10. Hypothetical and schematic reconstructions of the Eastern Suburbium terrace system, while in use (A) and after abandonment (B). These sketches are not on scale and even though they do not represent the reality in the field, all shown features and layers have been observed in varying forms at the 1990-91 and 2011-12 trenches at site F. Reconstruction drawing A shows a.o. an Early Roman Imperial workshop (see § 6.3.4), Late Hellenistic cremation urns (see § 5.4.2), a Late Roman inhumation burial (see § 7.4.7), a Roman Imperial vaulted tomb with associated ceramics dump from ritual feasting (see § 6.4.3 and § 6.4.4) and a Roman Imperial aqueduct (see § 7.2.2). Reconstruction drawing B shows how the site, after abandonment, was on the one hand partially destroyed (through erosion and seismic activities), but also preserved underneath post-occupational screes that completely hid the ancient terrace system from view (only a part of the vaulted tomb remained visible).

hillside, and 2) build the terrace wall on the surface and wait for it gradually to collect soil by erosion or ploughing. The techniques attested in the site F terraces at Sagalassos appear to be a combination of both techniques.

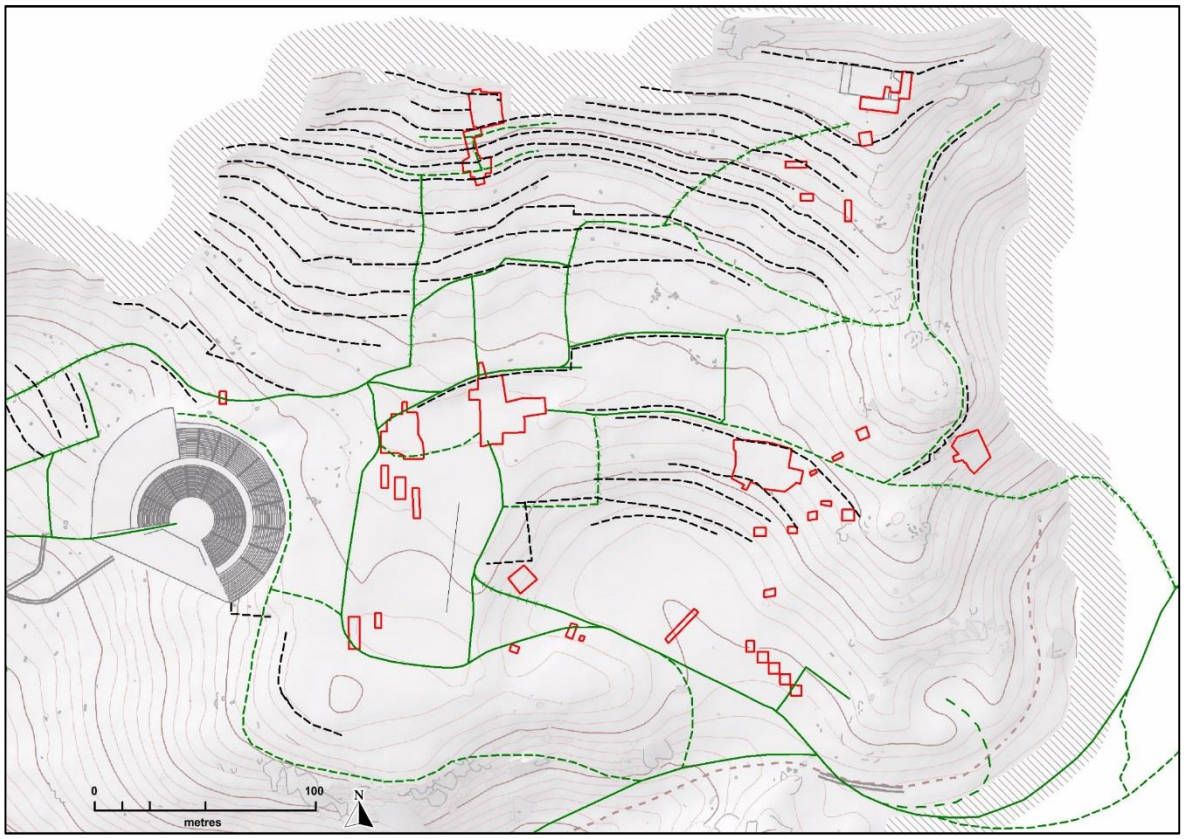


Fig. 5.11. Plotting of the presumed terraces throughout the Eastern Suburbium (dotted black lines). The presumed (Roman Imperial) street pattern is indicated with green lines, with arrows indicated the steepest slopes; the excavation and test trenches outlines are indicated in red. While the reconstruction remains hypothetical, it is based on excavation results, architectural field surveys and the geophysical survey. Aerial photography was consulted as well, but could provide little additional information.

The terracing system throughout Sagalassos

Although terracing is a widespread, common and very visible phenomenon throughout large tracts of the Mediterranean landscape, archaeologists until rather recently seemed to have steered away from the topic (while, incidentally, the phenomenon of terracing has long been regarded by geographers as a landscape modification that is worthy of attention in its own right[314]). The archaeological studies that have been published, moreover, appear to focus on specific areas of the Mediterranean, *e.g.* the terracing systems of Israel[315] (where the study actually has a long-standing tradition) and (southern) Greece and the Aegean islands[316]. The focus in these studies mainly lies on attempting to date the terrace walls, not surprisingly since terrace-building is still ongoing as an agricultural practice. Undoubtedly because of the lack of data obtained from in-depth scientific research, the views on terrace systems for the ancient world diverge from downplaying their importance to highlighting it.[317] Ancient texts do not really clarify this issue because of semantics: there are no unique words to describe 'terrace wall'; the ancient Greek words '*αίμασιά*' (*haimasia*) and '*τειχίον*' (*teikhion*) can also refer to freestanding walls and/or enclosure walls[318], while the Roman word '*substructio*' generally means a supporting

[314] Treacy & Denevan 1994, 91.
[315] Davidovich *et al.* 2012, 192.
[316] Moody & Grove 1990; Whitelaw 1991, 1994 and 1998; Foxhall 1998; Price & Nixon 2005, Bevan & Conolly 2011.
[317] Compare for example the view of Lin Foxhall, who maintains the position that most of the visible terracing in southern Greece is post-medieval (Foxhall 1996), with the views of Michèle Brunet (Brunet 1990) or of Simon Price and Lucia Nixon (Price & Nixon 2005).
[318] Price & Nixon 2005, 22.

embankment or foundation wall.[319] Indeed, in most cases of the ancient text fragments presented in the papers of Lin Foxhall (1996) and Simon Price and Lucia Nixon (2005), the references to 'terrace walls' are ambiguous. However, no study on the subject refutes the existence of extensive terrace systems throughout the Mediterranean in ancient times, for which an ever increasing amount of archaeological data can vouch.[320]

During field work by the geomorphological team at Sagalassos, terrace systems were observed in the areas around Sagalassos, of which most of the lower ones are still in use. However, some of the highest terraces in the immediate surroundings of the city – even when still visible in the landscape – are abandoned and might date to ancient times. On terraces to the southeast of the Temple of Antoninus Pius and east of the Alexander Hill, two core profiles were constructed from multiple sediment cores (respectively SA-01-EP-3 to 7 and SA-01-EP-8 to 14) collected immediately upslope from terrace wall remains, where the largest amount of accumulated soil was expected.[321] In one of the cores (SA-01-EP-8) an increased amount of anthropogenic influence on the soil composition was detected at a depth between 0.60 m and 1.68 m. The increased amount of the associated elements P, Cu, Pb and Mn (to a lesser extent also K and Ca) and the concentration of charcoal, ceramic fragments and animal bone fragments are explained as the gradual accumulation of intensive manuring. Two charcoal fragments from this layer were carbon dated (AMS), which led to an assumed age of 1-230 cal AD for the lower sample and 760-980 cal AD for the upper sample, suggesting that the fields have been in use throughout Roman and Byzantine times. Ancient human presence is further evidenced by the presence of a monumental structure (probably a tomb) near profile 1 and an Early to Middle Roman Imperial suburban farm or estate, as welll as funerary remains and an olive press near profile 2.[322] These are indications that the terraces to the south of Sagalassos were also at least since Roman times used for multiple purposes, *i.c.* agriculture (intensively cultivated gardens and/or orchards) and burial.

Interpreting the Eastern Suburbium terraces

The question arises why the terraces in the Eastern Suburbium were originally erected. The earliest features attested on the terraces themselves date to Mid and Late Hellenistic times, also on terraces that are dated to Late Classical / Early Hellenistic times. The absence of Late Classical or Early Hellenistic remains at site F does not warrant a total absence of these periods on unexcavated sections of the terraces. However, the scarcity of earlier evidence stands in sharp contrast with the strongly attested Late Hellenistic presence on the site, both as features *in situ* and as stray finds in secondary and tertiary deposition.

The lack of evidence for structural remains tempts to associate the original layout of the terraces with agricultural activity, which would indeed leave few archaeological traces, especially since the arable topsoil would long since have disappeared. Unfortunately, the palynological study of a core taken from the Central Depression only procured pollen from strata postdating Hellenistic times (**Fig. 4.2**), which makes it difficult to study the Classical-Hellenistic vegetation in the immediate surroundings of the Eastern Suburbium. Also the other scientific disciplines could not provide additional information on this period: the geophysical survey gives only limited insight into the stratigraphy of the underlying features and excavations have thus far covered only 5 % of the total area of the Eastern Suburbium.

Agricultural activity in this type of topography would inevitably coincide with the clearing of fields, a practice that can be witnessed throughout the Eastern Suburbium by the presence of dozens of heaps and rows of field stones

[319] Foxhall 1996, 51-52.
[320] Davidovich *et al.* 2012,
[321] These cores are discussed in the unpublished PhD dissertation of Simon Six, Department Geography-Geology at the University of Leuven (Six 2004, 173-181).
[322] Six 2004, 173-181. The 1999 survey is published concisely in the *Arkeometri Sonuçları Toplantısı* (Waelkens 2000, 87-88); the 2000-2001 surveys are presented in the *Araştırma Sonuçları Toplantısı* (Vanhaverbeke & Waelkens in Waelkens 2001, 271-274; Vanhaverbeke *et al.* in Waelkens *et al.* 2002, 335-338).

(**Fig. 10.9**) that were erected in post-occupational times, when the area (once more) appear to have served agricultural and pastoral purposes. Building terrace walls is in itself, of course, a specific way to deal with stony fields clearings. In the words of the 1st century AD writer Columella: *"It is easy to prepare a stony field by gathering up the stones. If there is a great abundance of them, either parts of the field are taken up with supporting terrace walls that the rest may be thoroughly cleared, or the stones are buried to some depth in a sunken trench, which should be done if the cheapness of the labour recommends it."*[323] Apart from the construction of the walls themselves, the agricultural exploitation in the Eastern Suburbium of these newly formed terraces would most likely require incrementing the terrain with fertile soil (**Fig. 5.9**). Thus considerable efforts would have gone into attempting to gain relatively marginal arable lands. This raises the additional question as to what extent the more easily accessible and more level parts of the Eastern Suburbium would have been put in use as early as Late Classical / Early Hellenistic times. Surely if the peripheral, steep parts of the area were used for agricultural purposes, the clearly more suitable lands below must have been either already densely occupied or also in use for agricultural purposes. None of the excavations in the central parts of the Eastern Suburbium have brought forward indications for a Late Classical / Early Hellenistic presence in the surroundings, which seems to refute the former assumption, but which does not rule out the latter. Evidence for agricultural activities in the central parts of the Eastern Suburbium in these times would have been erased or obscured by a millennium of continuous and intense human interventions in the next centuries.

The identification of the original terracing system as agricultural terraces is hard to prove, but imposes itself when other possible identifications fail. Even if the terraces would have been laid out with the sole purpose of protecting the central parts of the Eastern Suburbium below from colluvial erosion, once they were installed they could (and probably would) have been made into use. Using the terraces for agricultural purposes would thus have been a logical next step. But additional efforts might have been needed in order to make the terraces arable, for example by incrementing the terraces with an additional layer of fertile soil. The pollen samples from the core-drillings PQ01 and PQ99, extracted from the Central Depression of the Eastern Suburbium (see § 4.2), do not provide any data concerning the Late Classical / Early Hellenistic period. But there are indications for Late Hellenistic times that might give some insight into the preceding period. The elevated levels of *Artemisia* in the samples, generally interpreted as an indication for soil disturbance, can be understood as an immediate result from the clay quarrying in the Central Depression (see § 5.3.2). However, in combination with high values for various other light-demanding herbaceous plants (*Lactuceae*, *Cerealia* and *Poaceae*) it should additionally be understood as an indication for the absence of dense forest vegetation in the same period (contrasting with an attested period of reforestation from Late Hellenistic times onwards). The samples, moreover, also contained significant levels of *Vitis vinifera* (grapevine)[324] and *Juglans regia* (walnut). The presence of respectively 0.8 % and 2.0 % of the *Vitis* – an autogamous plant dispersing only a small amount of pollen – in the sequence is a great indicator for local vegetation.[325] This has been explained as provenancing from grapevine cultivation on the slopes immediately south of the Eastern Suburbium. However, viticulture on these extremely steep mountain sides, with slopes around 50 %, would require an intensive terracing system. Even though there are only limited post-occupational erosion deposits obscuring the view (in contrast to the northern slopes of the Eastern Suburbium there is no 'backlog' potential of screes higher upslope), evidence for terracing has not been observed. These slopes are not only steeper, but contain also much more rocky outcrops – some even quarried (see § 5.3.1) – than the (northern slopes of the) Eastern Suburbium. Moreover, when considering the local predominant winds, it seems unlikely for *Vitis* pollen to travel upslope into the Central Depression. Therefore we dare to suggest that the terraces on the northern slopes of the Eastern Suburbium were more convenient for the

[323] Columella *De re rustica*, 2.2.12 (English translation by Lin Foxhall 1996, 51-52). Getting rid of the field stones in an efficient fashion is one reason for constructing terrace walls, but the main reasons are probably the slowing down of the water run-off (water stays longer, penetrates deeper and evaporates less) and the prevention of soil erosion (Foxhall 1996, 52; Six 2004, 173).

[324] "*As the grapevine produces and disperses only a small amount of pollen, the signal was considered meaningful and could indicate the cultivation of grapes not far from the Potters' Quarter*" (Poblome *et al.* 2008, 1007).

[325] Vermoere 2003; Vermoere 2004, 180-190.

cultivation of grapevines. Indeed, the characteristics of these south-facing slopes makes them more suitable for grapevine cultivation than the more level parts of the Eastern Suburbium as well. Again, the presence of grapevine pollen in a (Late) Hellenistic context should not be transposed unquestioningly to preceding periods, but it may be clear that the same conditions for viticulture (and horticulture/arboriculture) were already fulfilled by Late Classical / Early Hellenistic times. The low levels of *Olea europaea* in the pollen sequence, on the other hand, do not justify olive cultivation in the immediate surroundings. The climate conditions associated with the altitude were probably too harsh for olive, but not necessarily for walnut.[326] However, the researchers acknowledge the limitations of the conclusions that can be drawn from these core samples and stress the need for additional pollen sequences, especially for the pre-Roman times.[327]

Studies stated that resorting to terracing for agricultural purposes can be imposed by a pressure on agricultural resources, for example through a sudden population increase.[328] However, in the case of the Eastern Suburbium other factors might have played their part: its location close to a settlement (the Hellenistic town centre of Sagalassos) would have been an asset, as would have been the presence of natural water sources. There is no direct evidence for a sudden increase in population, though the ubiquitous presence of Hellenistic traces throughout the city might be an indication. Indeed, at the latest from Middle Hellenistic times onwards the terraces are gradually occupied by funerary activities (see § 5.4).[329] This observation does not stand in the way of an association of the original terraces with agriculture, since agricultural fields and burials could coexist on one and the same terrace.[330] Indeed, burial plots in many cases served as gardens as well[331], with the produce considered as an actual economic commodity. The Mid Hellenistic period is also the time frame in which we can situate the eventual abandonment of the neighbouring Düzen Tepe settlement as well as the farms in the Ağlasun valley. This process of nucleation can at least partially be explained from a necessity of easily defensible sites in times of internal and international strife.[332]

There appear to have been three main possible suggestions for the original purpose of installing a series of terraces along the northern slopes of the Eastern Suburbium: protecting the central parts of the quarter from colluvium, increasing the amount of arable lands and/or layouting an area for burials. Neither of these three suggestions excludes the others as possible additional motives, the first actually giving rise to the other two options. There is direct proof neither for funerary activities nor for agricultural activities for the layout of the terraces in Late Classical / Early Hellenistic times. But while there is a clear absence of evidence for the former suggestion in the excavations of site F (the relatively low amount of overlaying and disturbed burials suggests that older burials were in many cases left untouched), there is no evidence to rule out the latter suggestion. Palynological data seem to indicate that the succeeding Hellenistic times represented a period of deforestation, probably not coincidentally in combination with evidence for viticulture and arboriculture. The same climatological, topographical and infrastructural conditions required for agriculture on the slopes of the Eastern Suburbium were already present in Late Classical / Early Hellenistic times. Agriculture thus appears to be the most likely original goal of the terracing system at site F, despite the limitations posed by the terracing's 'marginally' high location. The altitude was probably neutralised by the fact that the slopes faced straight south at a favourable angle, which would have justified the efforts it must have taken to erect and maintain the terraces. Then, at least from Hellenistic times onwards, the terraces became multifunctional (see further) and would remain like that throughout the *suburbium*'s history.

[326] Vermoere 2004, 186, 189-190.
[327] Vermoere 2004, 185.
[328] Price & Nixon 2005, 6-7.
[329] The Southern Necropolis is generally considered to be the oldest *necropolis* of Sagalassos (Köse 2005a, 17-22). However, archaeological work in the Eastern Necropolis, executed after the publication of Veli Köse's study on the *necropoleis* of Sagalassos, suggests that a lot of complementary chronological information can be derived from excavatations. Most cremations and pit inhumations, for example, generally leave little archaeological traces that are detectable by surveys alone.
[330] Foxhall 1996, 46-48.
[331] See a.o. Purcell 1987, 29-302; Giesecke 2007, 104-109; Campbell 2008; Brundrett 2011.
[332] Vanhaverbeke & Waelkens 2003, 217-227.

5.3 Artisanal activities

While clay quarrying in the Central Depression and woodland exploitation in the immediate surroundings (see § 4.1-4.2) could have started as early as (Late) Classical times (see § 5.3.2), the Hellenistic period would see the advent of more varied and possibly more intensive human presence, especially from the Mid Hellenistic period onwards, when the city itself would come to full urban fruition (see § 1.2). It is only from that point onwards that we can truly speak of a *proasteion*, with its associated mix of agricultural, funeral (see § 5.4) and artisanal activities.

5.3.1 Limestone quarrying in the southeast of the Eastern Suburbium

Limestone quarrying in Sagalassos

The existence of limestone quarries in the vicinity of Sagalassos had been attested before, but no detailed research on the topic was performed before 2005.[333] During the excavation campaigns 2005-2007 more systematic surveys were carried out by a team consisting of prof. Patrick Degryse (geologist, section Geology at the University of Leuven), Tom Heldal (geologist of the Geological Survey of Norway, NGU), dr. Elizabeth Bloxam (archaeologist of the Institute of Archaeology at University College London, United Kingdom) and dr. Per Storemyr (conservation scientist of the Geological Survey of Norway, NGU). Support in archaeological surveying and dating of ceramics was given by respectively dr. Hannelore Vanhaverbeke and prof. Jeroen Poblome (both archaeologists at the University of Leuven). Labaratory analysis was executed in co-operation with prof. Philippe Muchez (geologist, University of Leuven). The identification and interpretation of stone quarries within the Sagalassos territory resulted in the 2007 publication *Quarryscapes.*[334] The focus lay on the determination and provenancing of local, regional and imported building materials, which are mainly limestones, but also breccias, conglomerates, intermediate volcanics (tuff and lava flows), travertine and sand- to siltstones.[335] While the origin of imported marbles and other decorative flagstones traditionally receives adequate attention throughout the Mediterranean, the study of locally quarried stones remains underrepresented. Sagalassos is an interesting case study, since predominantly local stone from a multitude of relatively small quarries had been used for its structures (**Figs. 5.12**-**5.13**).[336] In order to fill the research gap concerning locally extracted stones for Sagalassos both building stones and quarries were sampled. Through macroscopical study the limestones could be classified based on differences in mineralogy, colour and the presence of fractures, veins and stylolites, while through a complementary petrographical and geochemical study main- and sub-types could be defined and comparisons made between the quarries' samples and building stones' samples.[337]

It appears that throughout Hellenistic times only beige limestone (and radiolarian mudstone from Sarıkaya) was used for the sampled monumental building sites, *i.c.* the Mid Hellenistic city fortifications[338], the Late Hellenistic Fountain House (*c.* 50-25 BC), the Late Hellenistic or Early Roman Imperial Doric Temple and the Augustan Bouleuterion[339]. Roman Imperial times saw the gradual introduction of more varieties of limestone and from the

[333] Lieven Loots (archaeologist, University of Leuven) produced a preliminary map of the quarries in the immediate surroundings of the city based on his 1998-2002 surveys (Loots 2001, 10-39; Degryse (ed.) 2007, 3-4, 23 Fig. 6).
[334] Degryse (ed.) 2007.
[335] *Ibidem*, 31 Table 3.
[336] As Patrick Degryse formulates it: *"Thus, at Sagalassos, we are not confronted with an industrial 'quarry landscape' but more with 'quarries in the landscape' which are difficult to visualise."* (Degryse (ed.) 2007, abstract).
[337] *Ibidem*, 5.
[338] The Mid Hellenistic construction date for the fortifications could be confirmed during the 2015 excavation campaign (FO 2015 internal excavation report by Roel Van Beeumen and Jeroen Poblome). The same campaign also revealed a new Mid Hellenistic monumental public structure in the heart of the city (the market building east of the Upper Agora), but the origin of its limestone ashlars has not been studied yet.
[339] BO 2015 internal excavation report by Bas Beaujean. The data retrieved from the 2015 soundings underneath the Bouleuterion's floor slabs contradict earlier dates proposed for the construction of the building.

reign of Hadrian onwards a wide array of accessible local, regional and imported stones is used in the newly constructed buildings.[340]

After the stone blocks were extracted from the quarries, they needed to be transported to the corresponding building sites. Transport over shorter distances, as was the case for the quarries in and arround the Sagalassos Eastern Suburbium, did not have to be sub-contracted to a third party.[341] The transport of heavy stones by carts obviously required specific road characteristics: there were limitations to the steepness of the road and the length of the road (especially over land) could define the price of the stone more than the actual quarrying and shaping. If necessary so-called slipways would be installed in order to deal with inaccessible quarries or extremely heavy loads.[342] This might have been the case in Sagalassos for small distances, but the known stone extraction sites in the surroundings of the Eastern Suburbium and Elmalı Pınar / Gökpınar areas appear not to have dealt with unpassable obstacles between the quarries and the associated construction sites. Carts would have been modified in order to adapt to the weight of the stones. Stones would have been loaded onto the carts by means of a ramp or crane – neither of which method there is direct evidence for in the case of Sagalassos (no excavations have taken place inside actual quarries). In the case of Sagalassos the carts would most probably have been pulled by oxen, donkeys or mules – their amount depending on the weight of the stone. In extreme cases stones would have been transported alternatively by means of rollers, capstans and pulley blocks, but there are no known limestone blocks in the monuments of Sagalassos that would have required such a procedure.[343] All in all the transport costs for the building blocks for the Sagalassos monuments must have been reasonable in comparison with the imported decorative stones from further away.[344]

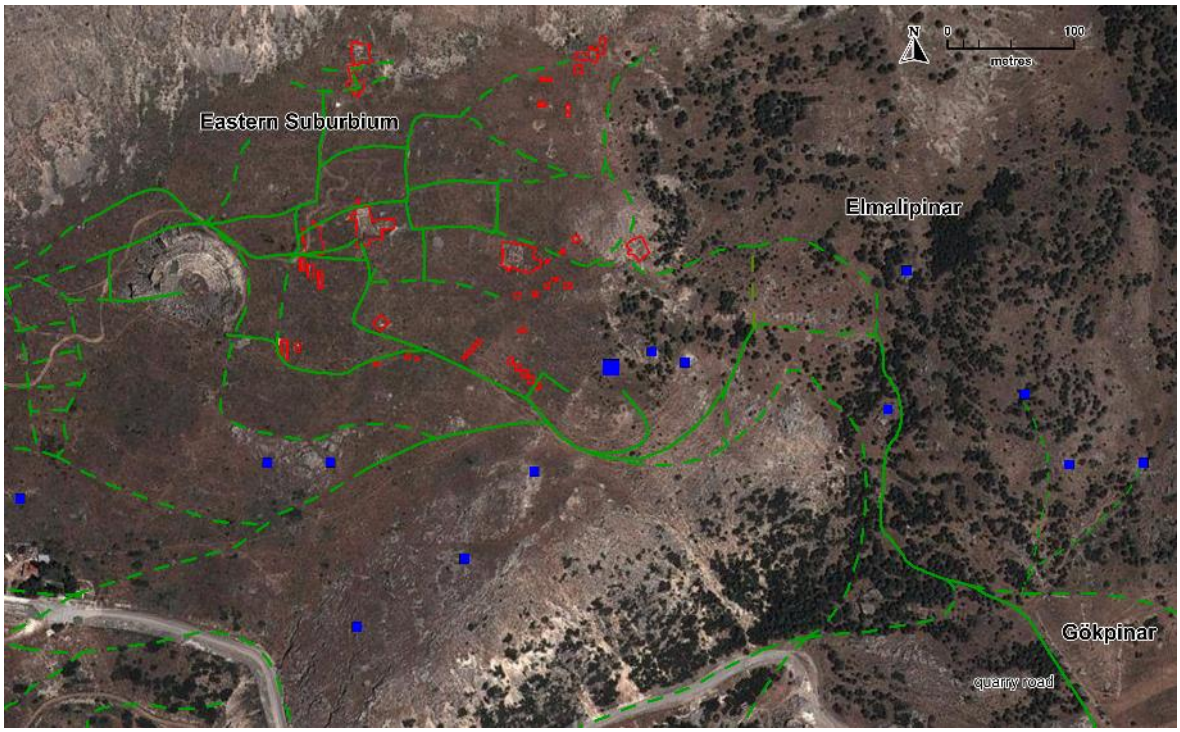


Fig. 5.12. Overview of the quarries (blue) in the immediate surroundings of the Eastern Suburbium, Elmalı Pınar and Gökpınar, plotted on Google Maps. The largest quarry in the southeast of the Eastern Suburbium is situated in the centre of the map. An assumed ancient quarry road was identified in the Gökpınar area (full green line). Based on Loots 2001, Fig. 2.1 and Degryse (ed.) 2007, 39 Fig. 12.

[340] Degryse (ed.) 2007, 32 Table 4.
[341] Waelkens 1994, 84; Loots 2001, 29.
[342] Loots 2001, 29.
[343] The volumetric *mass density of the* local limestone totals between 2.4 and 2.6 ton/m³ (personal communication from Patrick Degryse).
[344] Loots 2001, 29-30.

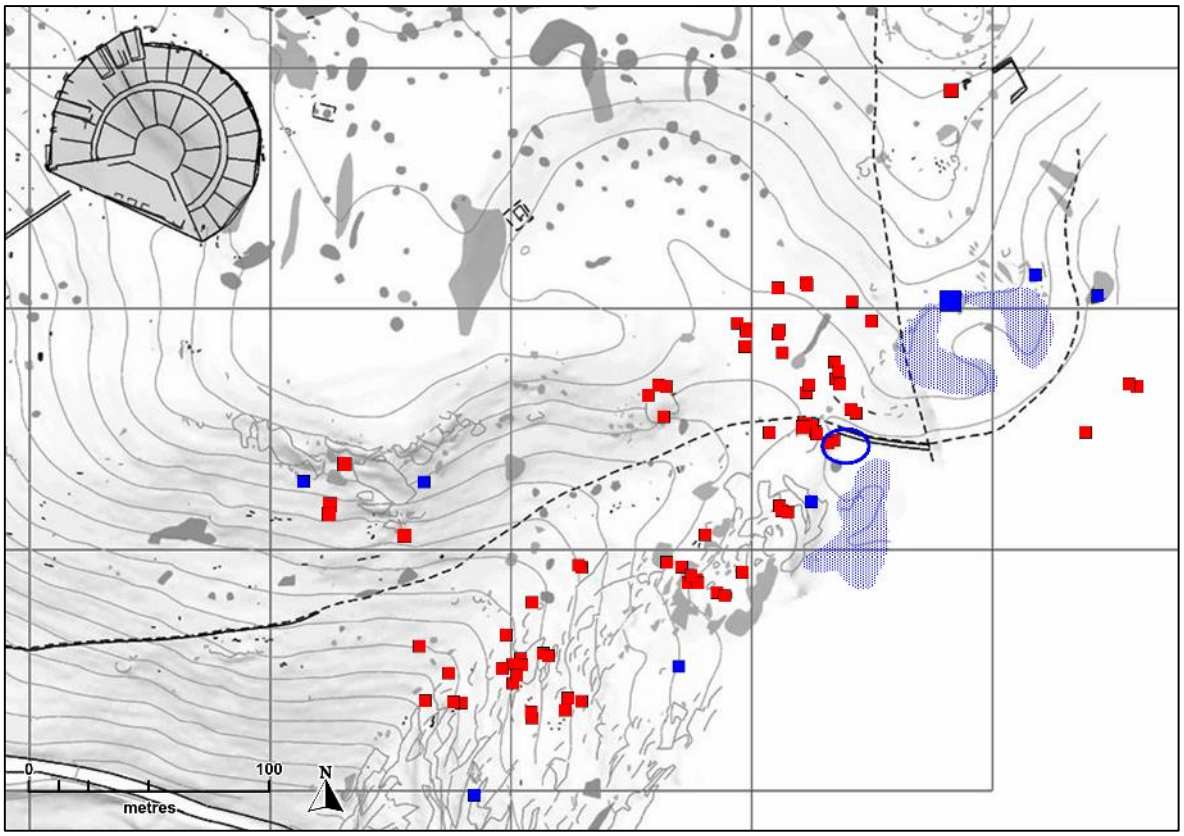


Fig. 5.13. Detail of the area south of the Eastern Suburbium, siting the location of the different limestone quarries (blue squares), spoil heaps (blue dotted) and assumed work area (blue circle). Note the apparent relationship between the *sarcophagi* (red) and the small limestone quarries on the steep slopes south of Eastern Suburbium. Based on Degryse (ed.) 2007, 39 Fig. 12.

Quarries in the Eastern Suburbium, Elmalı Pınar and Gökpınar[345]

One of the earliest quarries in use – and one of the largest quarry in the immediate surroundings of our study area – is located southeast of the Eastern Suburbium (**Fig. 5.14 a**). While the quarry appears to be located at the southern spur of the ridge bordering the *suburbium* to the east, the spur itself has been created by quarrying activities. The ridge actually continues in southeastern direction; the quarry just created an abrupt offset in the ridge. The remaining vertical quarry face, standing *c.* 4 m high and 5.5 m wide, is oriented towards the south. Pick-hammer traces can be recognised on a 20 m² plateau topping the quarry face.[346] The original height of the quarry face must have been higher, as a drill-core revealed that the open space in front of it had been filled up with several meters of debris and waste.[347] The quarry appears to have been almost exhausted; the large spoil heaps that accumulated east and west of the quarry give some indication for the importance of the quarry (**Fig. 5.14 b**). It is estimated that this exhausted quarry would have produced thousands rather than hundreds of cubic meters of limestone.[348] The size of the spoil heaps, consisting of limestone chips and fragments, is largely depending on the quality of the stone: the abundance of natural fractures in the limestone deposit (a consequence of the proximity to thrust faults) forced the quarrymen to follow the natural features instead of defining their own systematic channeling. This is the only known quarry within Sagalassos where the spoil heaps

[345] Some of these quarries (which were intended mainly for *sarcophagi*) were possibly only in use in Roman times. Their description is included here (for completeness of this paragraphs), but where necessary a reference to the correct time frame is added.
[346] Loots 2001, 16.
[347] Personal communication from Patrick Degryse.
[348] Degryse (ed.) 2007, 34.

are preserved. Other heaps might have been carried away by landslides, covered by erosion, removed or used as rubble in constructions (see also § 8.6 and § 11.2.2).[349]

A nearby quarry, 60 m to the east of the former one and thus strictly within the Elmalı Pınar area, provided more details on the quarrying techniques. The mainly horizontal quarry surface could be reconstructed over an area of 13 by 16 m (208 m²). In the southern part of this quarry seven extraction channels are still visible, measuring between 0.25 and 0.32 m in width and with a depth of max. 0.74 m (**Figs. 5.15**-**5.16**). There appears to have been a main channel along the western side, 0.40 m wide and filled with erosion material, of which the depth could not be reconstructed. Several individual blocks were halfway quarried when extraction activities appear to have ceased.[350]

Several more small-scale quarries were recognised south and (south)east of the Eastern Suburbium (**Fig. 5.12**, **Fig. 5.13** and **Fig. 5.19**).[351] Not all of these quarries, some only producing a few cubic meters of stone, have been documented in detail. Other small extraction sites may not have been recognised (yet), have disappeared (eroded from the rock face) or remain hidden under screes, dumps or buildings. In most cases the extracted limestone appears to have been used in the immediate surroundings of the quarry: see *e.g.* the relationship between the small quarries on the hillside south of the Eastern Suburbium and the *sarcophagi* on the same slopes (**Fig. 5.13**). Indeed, not only were many of these *sarcophagi* located in the immediate vicinity of the quarries they were extracted from, some were even carved *in situ* into the outcropping bedrock near the top of the ridge (in the Eastern Suburbium this was the case for several *chamosoria* (rock-cut *sarcophagi*[352]) (see § 7.4.8). Most of these extraction sites only catered for a limited (1 to 5) number of *sarcophagi*, with quarrying as a rather sporadic and ad hoc activity. The many smaller quarries in the Elmalı Pınar and Gökpınar areas to the southeast of the Eastern Suburbium were not sampled nor dated, which makes it impossible to link any of them with specific building programs. It seems likely to suggest that they as well were exploited for mainly local use, *e.g.* in the construction of the Roman farm site at Gökpınar.

An 800 m long stretch of limestone cliffs between the Çiğilli Pınar and Külüklü Pınar catchment areas (**Fig. 5.19**) appears to have been quarried as well. These almost vertical rock faces are situated between 1.400 and 2.050 m east of the city centre at an altitude between 1.630 and 1.690 m asl, in an area east of Elmalı Pınar and northeast of Gökpınar. They are the same cliffs in which well-preserved rock-cut tracts of the two Eastern Aqueducts can still be witnessed (see § 7.2.2). A small quarry was initially observed during the Pisidia survey, at *c.* 2 km east of the city centre.[353] In this quarry three large, partially quarried blocks are found that have not been separated from the bedrock (**Fig. 5.17**) and which were probably destined to be carved as *sarcophagus* coffins. In the surroundings several semi-finished products, among which at least one *klinè* (*sarcophagus* lid), were documented.[354] During the 2013 campaign other *Halbfabrikate* and accumulations of stone chips were witnessed at another location along these cliffs (**Fig. 5.18**), suggesting that several other (small) quarries could have been in use. The quarry and aqueduct were associated by prof. Marc Waelkens with a presumed road that came in from the east and followed to some extent the outline of the aqueduct. Indeed, there must have been a road connecting these quarries with the Eastern Suburbium (and thus with the city beyond), but the local topography would not have allowed the road to closely follow the aqueduct (of which many sections are rock-cut in almost vertical cliffs). This road more likely avoided the limestone outcrops and gradually winded down to connect with the known road through Elmalı Pınar (**Fig. 5.19**).

[349] *Ibidem*, 61-62.
[350] Loots 2001, 15.
[351] *Ibidem*, 15-16.
[352] Köse 2005a, 100-101.
[353] Waelkens 1993, 37.
[354] Waelkens & the Sagalassos Team 1997, 241; Loots 2001, 15; Köse 2005a,

Fig. 5.14 a/b. Views on the large limestone quarry to the southeast of the Eastern Suburbium. The left picture shows the remaining quarry face, as seen from the south; the right picture is a view from the north, showing the spoil heaps on either side of the quarry's face.

Fig. 5.15. View from the south on a well-preserved face of a medium-sized quarry in Elmalı Pınar, showing clear traces of the pick-hammer. Both in front of the face and to the west some extraction channels can be recognised.

Fig. 5.16. View on the same quarry from the west. The almost finished extraction of the block on the left might have been abandoned due to the severe fracturing of the limestone.

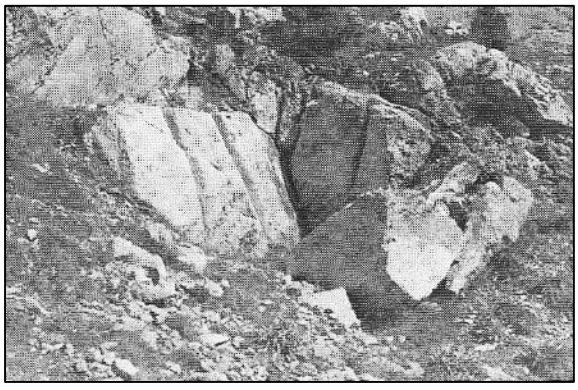


Fig. 5.17. Quarry observed during the Pisidia survey in a stretch of limestone cliffs east of Elmalı Pınar. Several partially quarried blocks can be seen that were never extracted from the bedrock. Köse 2005, 265 Fig. 52.

Fig. 5.18. The lower stretches of these cliffs as well as the slopes below are buried in screes, which hampers the identification of possible other quarries. But indications for quarrying activities at other parts along these cliffs were observed during the 2013 campaign.

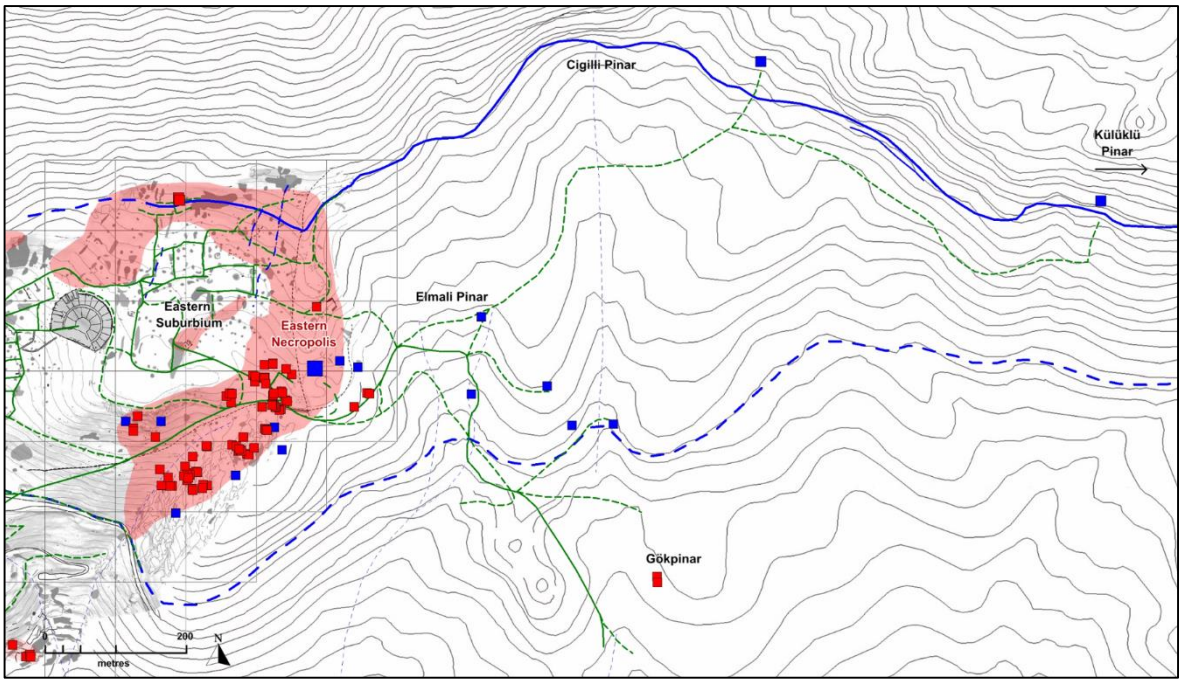


Fig. 5.19. Map showing the relation between the wider surroundings of the Eastern Suburbium and the different identified quarries. Limestoine quarries are indicated with blue squares, aqueducts with blue lines (dashed for uncertain stretches of their course), *sarcophagi* with red squares and roads with green lines (dashed for uncertain stretches of their route). The quarries between Çiğilli Pınar and Külüklü Pınar were at least partially exploited for the production of *sarcophagi* (most probably for the Eastern Necropolis). The most logical (quarry) road coming in from the east only loosely follows the aqueduct, avoids steep slopes and rocky outcrops and reaches the Eastern Suburbium by connecting into the road through Elmalı Pınar.

Quarrying transport and techniques

An assumed quarry road was discovered in the Gökpınar area.[355] A rather well-preserved *c.* 220 m long stretch of the road, oriented nortwest-southeast, lies east of a low bluff in the landscape and *c.* 90 m west of the Gökpınar farm site. The road is supported on both sides by low retaining walls, with a moderate gradient (*c.* 10 %) and wide enough (minimum 4 m) to allow the passage of two carts. The quarry road probably served to transport stones downwards from the quarries higher up in the Gökpınar and Elmalı Pınar areas (there are as yet no known quarries located south of this point to account for quarry traffic in the opposite direction). This road undoubtedly also doubled as an axis for other forms of traffic, as it connected with the road leading up through the Gökpınar-Elmalı Pınar area into the Eastern Suburbium.[356] It was indeed probably the main road connecting the Eastern Suburbium with the Ağlasun valley: the gentle slope of the terrain south of this point did not pose any further obstacles towards the valley floor and the road upslope through Elmalı Pınar could be preliminarily reconstructed (see § 6.2.1). Even though the road is still in use as a trackway, today there are no fields nor other points of interest higher upslope that would explain the investment it took to construct the road. Those efforts can only be justified in the light of more intensive human activities in ancient times, such as the ones mentioned above.

[355] Personal communication by prof. Patrick Degryse, the road is as yet unpublished.

[356] The road probably not only served artisanal purposes of the Eastern Suburbium itself (transport of quarried stones, import of raw clays, export of finished products, *etc.* (see a.o. § 6.3.1), but also the presumed metallurgical ateliers near Gökpınar (see § 6.3.5). Moreover, since it was the least steep access route not only into the Eastern Suburbium but possibly into the whole city, it would have been a major axis for all kinds of transport by carts and possibly transport of larger livestock with the city centre as its destination (see § 6.2.1).

In any case the quarries in the surroundings of the Eastern Suburbium produced more limestone than was accounted for in the Eastern Necropolis. This is confirmed by the macroscopical and petrographical study of the samples: the limestone deposits at this large southeastern quarry consist of a bioclastic mud- to packstone with pellets, shells and crinoids.[357] Comparing the specific features of the rock with samples from the monumental buildings in Sagalassos established that limestone from this large quarry in the southeast of the Eastern Suburbium was used in the construction of pre-Roman Imperial structures like the Late Hellenistic Fountain House (*c.* 50-25 BC) and possibly already in parts of the original Mid Hellenistic city fortifications. But stones from this quarry were apparently also used in later times, *e.g.* in the Late Antonine Theatre and in the original Lower Agora Nymphaeum, dating back to late Flavian times (*c.* 80 – 100 AD).[358] The excavations at site F furthermore suggest that there must have been (funerary) monuments erected in ashlars throughout the Eastern Suburbium in the Hellenistic period (see § 5.4). Even though no samples of the one excavated Hellenistic monument could as yet be compared with the southeastern quarry, it seems logical that – especially for relatively small-scaled, private monuments – the stone would have come from a nearby quarry. The southeastern quarry of the Eastern Suburbium offers both the closest presumed distance as the crow flies (320 m), by presumed road (*c.* 655 m) and the least difference in elevation (*c.* 45 m).

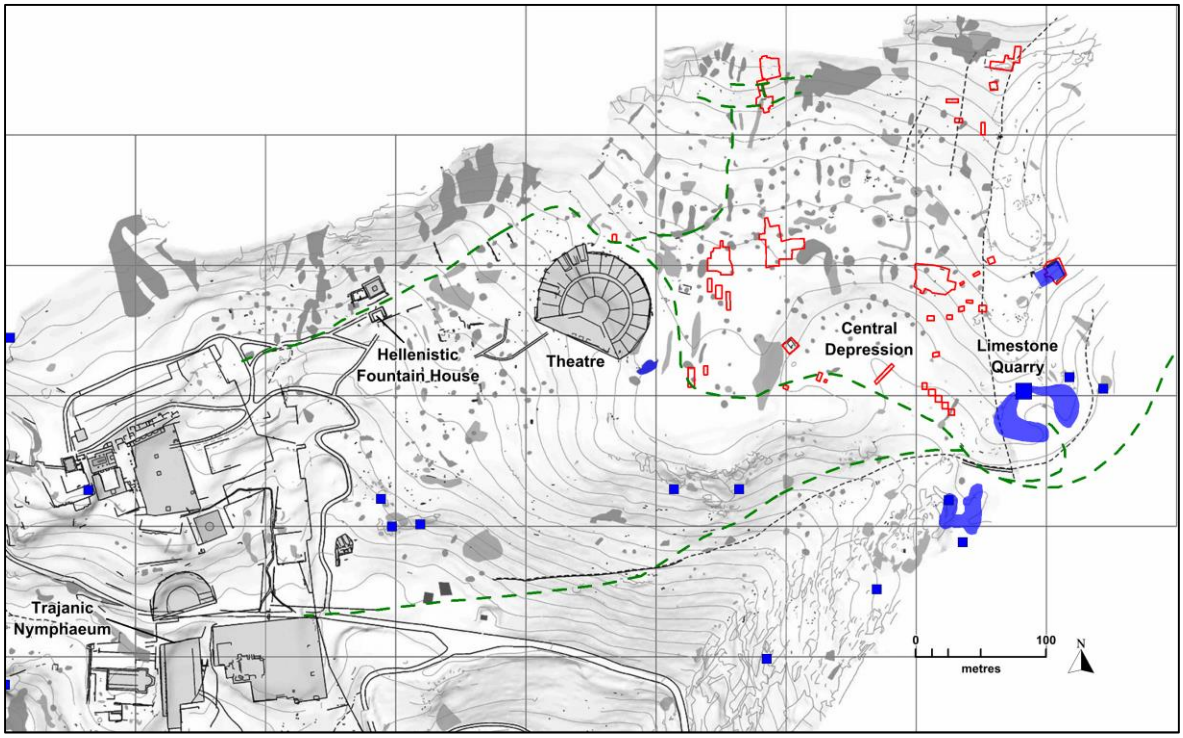


Fig. 5.20. Map of the eastern part of Sagalassos, showing the location of the southeastern limestone quarry (large blue square, shaded blue zones indicate the spoil heaps) and a reconstruction of the most likely roads (dashed green lines) from the extraction site to the monuments in which this particular limestone is used: the Theatre, the Late Hellenistic Fountain House and the Trajanic Nymphaeum. The outlines of the excavations and test trenches in the Eastern Suburbium is indicated in red.

[357] The petrographical and geochemical characteristics of the limestone in the eastern quarries of Sagalassos are described in Degryse (ed.) 2007, 34.

[358] Degryse (ed.) 2007, 58 Table 6.

Fig. 5.21. Example of the channeling extraction technique in a quarry on the eastern slope of the Elmalı Pınar groove. The intention was probably to eventually split the stone to the left of the channel.

Fig. 5.22. View from the south on fanning piles of stone chips resulting from carving *sarcophagi* in the southeastern corner of the Eastern Suburbium (see also Fig. 5.19).

The distances from the quarry to the construction sites of the Theatre, Late Hellenistic Fountain House and Lower Agora Nymphaeum are respectively 350 m, 515 m and 690 m as the crow flies, which corresponds approximately with *c.* 460 m, *c.* 695 m and *c.* 775 m if the topography and presumed roads are taken into consideration (**Fig. 5.20**). From the extraction site there was a direct downhill connection to the Lower City Centre and its *nymphaeum* through a gully immediately south of the Eastern Suburbium. The maximum slope of this route does not exceed 20 %. To reach both the Theatre site and the Late Hellenistic Fountain House a short uphill slope (the western slope of the Central Depression) needed to be overcome. Geophysical survey suggests the existence of a route of which the slope would not exceed 8,5 %. This road ends up at the upper levels of the Theatre's *cavea*, after which a downhill slope of 18,5 % leads to the Late Hellenistic Fountain House. These gradients, both uphill as well as downhill, are not insurmountable.[359]

Traces of three distinguishable ancient stone extracting techniques can be witnessed throughout the Sagalassos quarries: levering, splitting and channelling. Levering is the extraction of blocks by following natural fissures that are widened with the help of levers or inserted stones. This was probably the oldest technique for actively extracting stone. Splitting was the technique in which cracks were created by using a sledge hammer to hit wedges inserted into a series of prefabricated holes. Channelling (**Fig. 5.21**) involved the carving of deep grooves in the rock, a practice that always accompanied with splitting.[360] Also traces of finishing the stones are visible in the form of fans of limestone chips along the slopes south of the Eastern Suburbium (**Fig. 5.22**), probably resulting from carving *sarcophagi*.

[359] The stones extracted from the quarries of Profitis Elias in Greece, for example, had to be transported over a distance of 5 km, with an average uphill slope of almost 8 % (Papageorgakis & Kolaiti 1992, 37, 40 Fig. 1).

[360] For a more detailed study on ancient quarrying techniques and its associated tools (both in Antiquity in general and in the case of Sagalassos in particular): see Loots 2001, 24-29.

Quarry management at Sagalassos

There is no direct evidence (*e.g.* inscriptions, **Fig. 5.23**) that would offer us a detailed view on the ownership, management or organisation of the quarries in Sagalassos in general and in the Eastern Suburbium in particular. In the ancient Greek World it was common practice that quarries were in local private or communal hands, with the larger quarries possibly being leased out to small entrepeneurs. This practice would not substantially alter in Hellenistic times, even though the elite would have amassed the means to import a greater variety of stones from distant quarries. In Roman times it would increasingly become custom for the Empire to claim ownership of quarries, falling either directly under the Imperial patrimony (Imperial quarries) or under the management of Imperial officers (state-owned quarries). This practice was especially directed towards the larger quarries that provided luxurious stones and thus would not directly affect the (smaller) quarries for building blocks that were almost exclusively meant for local use.[361]

The quarries studied in the vicinity of Sagalassos in general and more specifically the ones surrounding the Eastern Suburbium fall within this latter category. The quarries that lay near to the city and that catered the large municipal building projects were most probably property of the city, while private individuals – *i.e.* mainly the landowning elite – might have possessed interests in the stone quarrying sites as well. The day-to-day organisation of the larger quarries was normally in the hands of an engineering staff. The team normally included an architect (responsible for both the selection of the rock and the construction site) and the *probator* (responsible for the quality control). The Sagalassos quarries probably worked on the basis of a 'hand-to-mouth arrangement: in stead of having the possibility to deplete a built-up stock of quarried blocks, they would have produced blocks only when they were needed and could be afforded in the large building projects.[362] The visible remains of the quarries at Sagalassos indeed do not give any indications for the existence of surplus stocks or for the storage of building blocks. A handful of partially finished blocks can be observed, but those are still *in situ* in the quarry faces (**Figs. 5.15-5.16**). Inscriptions found at other ancient quarry sites (*e.g.* Didyma, Mons Claudianus and the quarries in the eastern Egyptian desert) give some insight into the composition of the quarries' workforce: (temple) slaves apparently worked next to private individuals, which could include freedmen, soldiers, *pagani* ('countrymen'), free workers and – in the case of Mons Claudianus – even women and children.[363] Several workers (estimates range from two to four) were needed in the extraction of one stone. The actual quarrying and splitting of the blocks probably required less skilled labour than the subsequent rough finishing of the stone on the workfloor. Depending on the size of the quarry a few up to several dozen of workmen[364] could be at work simultaneously; in the case of Sagalassos the number of workmen present in quarry sites was undoubtedly depending on specific building programs. Evidence from several monumental buildings in Sagalassos show that they were supplied with building blocks from several quarry sites simultaneously[365], which suggests a central management of the different extraction spots.[366] This does not necessarily mean that the quarries were all in communal hands, but it does suggest that the municipality of Sagalassos had the means to coordinate various quarrying sites.

[361] Ward-Perkins 1980, 24-25, 37; Waelkens 1990, 61-64, 69-71, 83-84; Loots 2001, 31-33.
[362] Loots 2001, 33; Degryse (ed.) 2007, 64.
[363] Loots 2001, 33.
[364] In the case of the Cave di Cusa quarry in Sicily, a maximum of 150-200 workmen have been proposed to have been working at the same time (Peschlow-Bindokat 1990, 40).
[365] Degryse *et al.* 2006; Degryse (ed.) 2007.
[366] This in contrast to what dr. Lieven Loots suggests in his dissertation on the building blocks and building techniques at Sagalassos (Loots 2001, 34). Archaeometrical studies under the supervision of prof. dr. Patrick Degryse into the provenance of the building materials have since shown almost all of the larger construction sites in Sagalassos were supplied by different quarries (Degryse (ed.) 2007, 53-54, 58 Table 6).

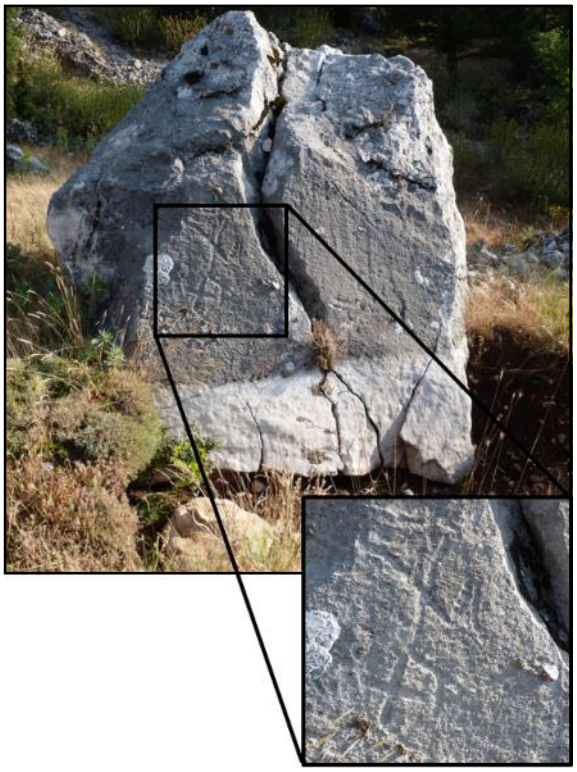


Fig. 5.23. View from the south on a boulder lying in a field immediately to the west of the Gökpınar *villa* site. Some marks are inscribed in its *c.* 2.5 m high face (inset). Even though the boulder appears to have been quarried, it is unlikely that these carvings represent quarry marks.

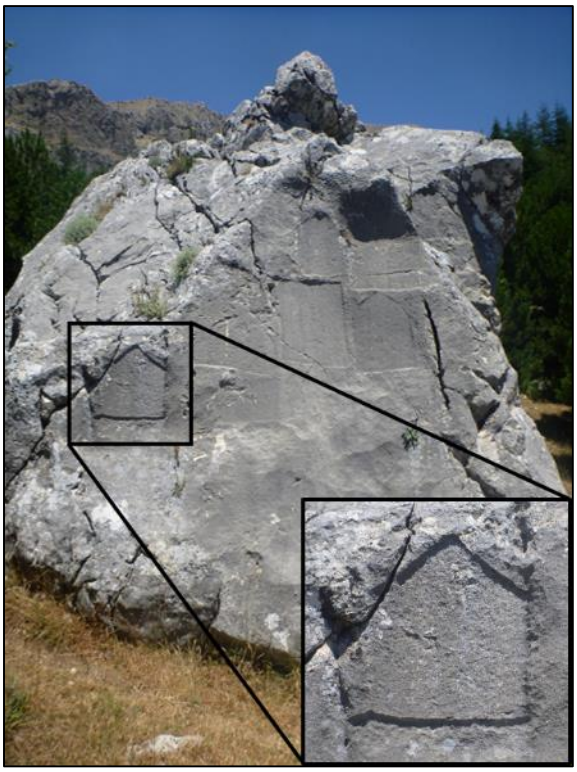


Fig. 5.24. View from the south on the quarry face of a 4.10 m high boulder in the Elmalı Pınar valley. While the lower part of the rock is roughly cut, the upper part is subdivided into a series of panes (inset). See Fig. 5.25 for more detail.

At Sagalassos, all (larger) quarries seem to have been abandoned from the third century AD onwards.[367] This is a rather tentative end date, since it is partially based on the premise that pottery sherds found on the quarry sites provide a *terminus ante quem* for the quarrying activities, which is not necessarily the case. Stronger dating arguments are supplied when quarries are buried underneath dated structures (*e.g.* the quarry underneath the Bouleuterion[368]) or when the structures in which the stones are used could be dated. The proposed gradual third century AD abandonment of the quarry sites does coincide with the last large construction sites in the city and with the observation that more and more *spolia* are used in Late Roman and Early Byzantine restoration and construction programmes.[369] There are several reasons why quarries that were not yet exhausted might have been abandoned: the lack of finances to complete a building as well as the completion of a building could mean the end of the quarry providing the stone, the area might have been abandoned after a natural disaster or after an attack, the exploitation might have become too risky or cumbersome, *etc.*[370] In the case of Sagalassos it appears that the investment in the exploitation of newly quarried stone in Late Roman times no longer outweighed the advantages that came with reusing *spolia*. The remaining vertical quarry faces could in some instances be reused for a.o. funerary purposes, for example *arcosolia* or votive inscriptions (**Fig. 5.24-5.25**).

[367] Degryse (ed.) 2007, 51.
[368] Degryse *et al.* 2006, 17.
[369] Degryse (ed.) 2007, 64. The reuse of *spolia* is a common practice throughout the Roman Empire in Late Antiquity, although the phenomenon becomes especially more stringent from the 6th century AD onwards (Loots 2001, 31).
[370] Loots 2001, 27.

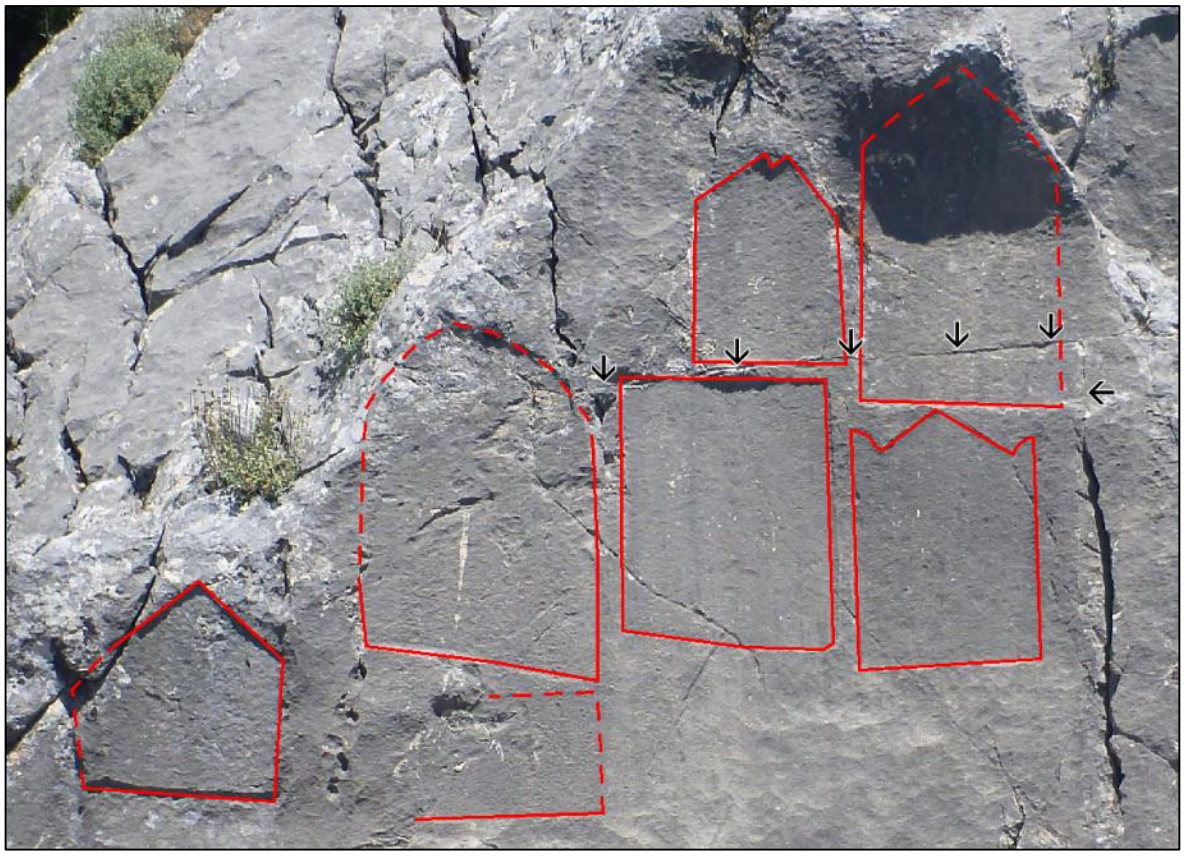


Fig. 5.25. The 'Elmalı Pınar Sanctuary'. Detail from the south face of the abandoned quarry in Elmalı Pınar (see Fig. 19b), with the still visible borders of a set of panes (highlighted in red), which were most probably intended for votive inscriptions and/or reliefs that would have been carved in the quarry face upon abandonment of the quarrying activities. The rock is laced with natural fissures and veins of white recrystallised limestone, but there are also carved lines indicating where blocks would be quarried (arrows).

A series of panes for votive inscriptions or reliefs have been encountered on the face of an abandoned quarry in Elmalı Pınar (**Fig. 5.25**). The quarry face showed several clearly distinguishable rectangular and '*naiskos*-shaped' panes.[371] These have been previously interpreted as quarrying traces, but are more likely to be slots for votive inscriptions and/or reliefs that would have been carved in the quarry face after the abandonment of quarrying activities. The boulder faces the road leading uphill through Elmalı Pınar and would thus offer an ideal 'billboard' setting. The inscriptions themselves are either completely eroded or have never been completed (if reliefs would have completely eroded, the outlines of the panes would have eroded too). The fact that carved quarry lines are also still visible in the rock surface, across the recesses reserved for inscriptions, indicates that at least some of the votive panels were never (fully) employed. Because of the badly eroded surface (the vertical lines of seeping water can clearly be seen), it is now impossible to tell whether these panes were actually intended for inscription or relief panes. Nevertheless, a similar setting is known from Pisidian Termessos, where the so-called Northern Sanctuary and Peak Sanctuary were recently published.[372] These sanctuaries, consisting of rock-reliefs and lengthy inscriptions, were located along a mountain pass above the Alketas Tomb, not unlike the setting of this within the Elmalı Pınar 'pass' leading up to Eastern Suburbium of Sagalassos. The Northern Sanctuary of Termessos was dedicated to a Triad of identical gods with double axes and dogs, who in the two accompaning long inscriptions are called '*Theoi Dikaioi*'. All the reliefs and inscriptions were dated to the Roman Imperial period. These three warrior gods are an epichoric triad known from similar examples cut on rocks elsewhere in

[371] For similar *naiskos*-shaped panes encountered elsewhere in Anatolia, see Delemen 1999.
[372] Fleischer 2008.

the Pisidia and Kabalis.[373] While all these examples are located more to the southwest of Sagalassos, presumed votive inscriptions were also recently published from another 'pass' setting, *i.e.* along the Kings Road in the aptly named Yazılı Kanyon ('canyon with writing'), which is located *c.* 35 km southwest of Sagalassos (**Fig. 5.27**).[374]

Fig. 5.26. Oinoanda reliefs around the so-called 'fountain', (originally most probably an *arcosolium*). From Milner & Smith 1994, Plate XV No. 4.

Fig. 5.27. Several inscriptions can be found along the narrow gorge throughout Yazılı Kanyon, located southwest of Sagalassos.

5.3.2 Clay quarrying in and around the Central Depression

In 1997 an archaeological-geological phase of research was initiated in the Eastern Suburbium. Over the next years drilling cores were collected and a series of test trenches were dug across the Central Depression and the surrounding eastern and southern slopes.[375] One of the results from this multidisciplinary research was the suggestion that the underlying ophiolitic clay soil was quarried till Late Hellenistic times.[376] Additional cores taken from the Central Depression in 2001 confirmed this hypothesis and suggested that clay quarrying in a stepped open-mining system might have been underway as early as 370/360 BC. However, since the clay was extracted in an open mining system, shifting progressively throughout the depression, the Late Hellenistic end date does not automatically apply to the whole of the quarry.[377] Several of the drilling cores showed that parts of the Central Depression were never quarried (the weathered ophiolitic clay layers probably being buried too deep) and that in other parts the quarrying stopped even before Roman times (50/40 BC), allowing the formation of a palaeosol on top.[378] The study on the origin and use of specific clay fabrics is ongoing and under constant scrutiny. Previous geochemical, mineralogical, and petrographical analyses suggest that this type of clay was used for the Late Hellenistic predecessor (fabric 11) of Sagalassos Red Slip Ware, for the production of contemporary common wares and for the production of slip layers on all kinds of ceramics.[379] Minor differences in the chemical composition of the Sagalassos common wares (*e.g.* the CaO and MgO contents) were explained as the presence of temper of Sagalassos Red Slip Ware and limestone in the common wares. Mineralogically, there were strong

[373] They are seen for instance at Oinoanda, Dont, Balboura (Asar Tepe), Tyriaion, Güğü, Kibyra and Idebessos. Portable variant types have also been found at Yazır, near Korkuteli, and at Osmankalfala (Milner & Smith 1994, 68).
[374] Labarre 2009.
[375] Poblome *et al.* 2001.
[376] The geological and geomorphological characteristics that favoured the formation of clay beds within the Central Depression have been described above (see § 2.2).
[377] Vermoere *et al.* 2003, 164-167 and Table 2; Vermoere 2004, 175. Three radiocarbon dates could be procured from charcoal fragments inside the clay palaeosol that developed on top of the substratum. The dates for two of these samples, 2110 ± 40 BP (210-40 cal BC) and 2080 ± 50 BP (170-40 cal BC) point to a Late Hellenistic date for the sediment, while a third date of 2210 ± 50 BP (370-200 cal BC) may originate from century old trees and be older than the palaeosol (all dates with 95.4 % probability). It is thus likely that this soil accumulated after 200 BC, while Jeroen Poblome considers 40 BC as a *terminus ante quem* for the formation of the palaeosol. This was confirmed during the excavation of trenches at site PQ 3 in the 2012 excavation campaign (see § 5.3.2 and § 7.4.3).
[378] Six 2004, 161-171; Degryse *et al.* 2003; Poblome in press b.
[379] Poblome *et al.* 2002, 879; Degryse *et al.* 2000; 2002; 2003, 263; 2008.

similarities between the common wares and building ceramics and clays from various locations in and around the Ağlasun valley (see further) and clays from the Central Depression (high contents in idiomorphic amphiboles, micas, and serpentine). The possible association of the Central Depression clays with Roman common wares and slip layers on a variety of ceramics would mean that quarrying of the Central Depression clays might have continued in an extensive fashion throughout Roman times. However, no archaeological indications have been encountered (yet) to back up this claim.

This was clarified by a recent provenance study on the coarse wares of Sagalassos[380], from which could be concluded that most likely different and relatively heterogeneous ophiolite clay deposits were exploited for the production of these ceramics. Thus apart for the Central Depression in the Eastern Suburbium several locations in and around the valley of Ağlasun hold suitable clay deposits for the production of the common wares and building ceramics. Indeed, the ongoing research into the Eastern Suburbium's potters' quarter[381] does not come up with indications for the production of cooking wares – nor any other potery product for that matter apart from Sagalassos Red Slip Ware and its associated coroplast products (figurines and other small mould-made items). Also the many pottery dumps across the quarter, studied both as surface material and in excavations, are strikingly devoid of misfired sherds from coarse wares.[382] Schemes of rural artisanal production (*e.g.* on farmsteads) can be proposed, not only for the coarse pottery, but also for the bricks, tiles and water pipes used throughout the Roman period. Any continued quarrying of the Central Depression clays might have been limited to providing the raw material for the slip layer used in the Sagalassos Red Slip Wares and in the mould-made items of the same fabric.[383] The amount of raw material needed for the slip layer would be dwarfed by the amount needed for the actual fabric. The limited scope of the quarrying process might thus explain why any continued quarrying of the Central Depression clays in Roman Imperial times has as yet stayed under the scientific radar. The benefits derived from the proximity between the site of mining and the site of use form an additional strong argument.

Before Roman times the Central Depression clay quarrying was strongly linked with the production of the so-called fabric 11 (the Late Hellenistic predecessor of Sagalassos Red Slip Ware). Among others the Late Hellenistic fine ware sherds collected from Kozluca Höyük[384] and Sagalassos, macroscopically similar to the mass produced Sagalassos Red Slip Ware but later redefined as its Hellenistic antecedent, were recognized as made from clays similar to the ones quarried in the Eastern Suburbium.[385] By the time the production of Sagalassos Red Slip Ware started, the local potters had thus already built up some experience in manufacturing tablewares. There are, nevertheless, no remains of Hellenistic pottery workshops as yet encountered in the Eastern Suburbium. This had been explained preliminarily by the centuries of unceasing artisanal activities that would have obliterated a lot of the earliest traces. On the other hand, in 2007 the badly preserved remains of an ovoid up-draught pottery kiln, dated to late 3rd-2nd century BC, have been recognized during the excavations of the *cavea* of the Odeion (**Fig. 3.4**).[386] Following the discovery the area immediately east of the site was subjected to a geophysical survey

[380] In Neyt *et al.* 2012 pottery samples were systematically collected from all identified clay fabrics since the start of the Sagalassos excavations and 70 raw clay samples were collected from sources throughout Sagalassos' territory, among which the drilling cores collected from the Central Depression and its immediate surroundings. See also Van der Enden *et al.* 2014; Poblome in press b.

[381] See for some recent views on the topic a.o. Murphy & Poblome 2010; Poblome 2013; Poblome in press b.

[382] Personal communication by prof. dr. Jeroen Poblome.

[383] Degryse *et al.* 2008; Poblome 2002, 879: "*The composition of the slip layer of Sagalassos red slip ware has been determined by microprobe analysis. The slip chemistry, with a higher content in Al_2O_3 and K_2O and a lower content in CaO and MgO (Table 3), suggests that the slip was manufactured in a standardized way throughout the period of production, using residual illite-rich clay suspensions extracted from the weathered ophiolitic mélange found in the local potters' quarter*."

[384] This tell close to Hadrianoi, located *c.* 20 km south of Burdur and 50 km southwest of Sagalassos, might be identified with the site of ancient Kormasa (Waelkens *et al.* 1998).

[385] Poblome *et al.* 2002, 879.

[386] Poblome *et al.* 2011, 534; The 2007 excavation of the Odeion has been described concisely by Bart De Graeve in the *XXX. Kazı Sonuçları Toplantısı* by Bart De Graeve. The Hellenistic kiln was eventually published in a multidisciplinary article on the occasion of the 2011 Cologne-Bonn Conference *Networks in the Hellenistic World* (Poblome *et al.* 2013).

by means of ground penetrating radar as well as magnetometry techniques. The results from this survey suggested the possible presence of other kiln remains three meters below top soil.[387] This led to a tentative identification of a small-scale Hellenistic potters' quarter at this location.[388] It would then appear that the potters moved only to the Eastern Suburbium when they started mass producing from Augustan times onwards (see § 6.3.1), with the increase in production output correlating with an increase in production units. These observations suggest that proximity to the clay source was not the defining factor for the settlement of the Hellenistic and Roman potters' quarters. Other factors must have prevailed in the decision process as to where to settle the production quarter, such as access to water and fuel. But probably the interdependence with the city might have been the driving factor: the city as the main market for finished products, as a guarantee to a certain level of protection and as the residence of most of the people involved in the pottery business (the thus far excavated workshops provide no evidence for residential functions). Since transport of finished products was very likely more cumbersome than the transport of the raw clays – both because of its volume and its fragility – constraining travel distance would have a far greater impact on the transport of finished products from the potters' quarter to its market than on the transport of raw clays from its source to the workshops.[389] These factors combined must even have compensated travelling uphill with a heavier load (a certain volume of raw clay being significantly heavier than the same volume of terracotta), as was the case for the Çanaklı clays having to overcome 570-595 vertical meters to reach the potters' quarter from the quarrying source.

Additional information on the clay quarrying in the Central Depression of the Eastern Suburbium was collected in 2012, when a series of five test trenches measuring 5 m by 5 m were excavated at site PQ 3, near the southeast 'entrance' of the Eastern Suburbium's Central Depression (see **Attachment 6**).[390] In the two northernmost sectors a large outcrop of natural ophiolitic bedrock was encountered (**Fig. 5.28**). Although ophiolite is present throughout the Eastern Suburbium, the proximity of this outcrop to the surface (not more than 0.30-0.40 m below top soil) must have been responsible for the high magnetic reading that showed up as a striking anomaly in geophysical survey.[391]

In the second sector from the north, the natural slope of the ophiolite bedrock, with an average gradient of *c.* 10 %, was interrupted by a abrupt descend to a depth of 1.80 m, a cut too steep to be natural (**Fig. 5.29**). Similar sudden dips in the ophiolite bedrock were encountered in the cores of the 1997-2002 drillings mentioned above. Both at the top and bottom of the cut patches of *in situ* ophiolitic clay (reddish brown in colour and moderate to hard compaction) were discovered. The steep cut was interpreted in function of clay mining: cutting back the friable ophiolite to stabilise the slope while mining the clay beds below. Ophiolite clay typically weathers from the upper face of the bedrock and can occur in 'pockets' throughout the Eastern Suburbium.[392] The cut made for mining also explains the very sharp edge of the 'anomaly' feature, which did not appear natural from the plan view.[393]

[387] It can not be ruled out entirely that the magnetic anomalies interpreted as kilns originate from collapse materials mixed with bricks and tiles (Poblome *et al.* 2013, 195).

[388] Poblome *et al.* 2013, 195-196.

[389] As a counterargument it can be debated how *"ceramic manufacture throughout the ages is usually found at the source of the raw material. Transporting wet clay for pottery manufacture is not a task endured unless absolutely essential."*(Wood 2004, 3; see also Arnold 1988, 32-57 for a discussion on the distances between clay sources and production sites). On the other hand, the availability of wood would even be a greater factor in the choice for a location to set up workshops (personal communication from Patrick Degryse).

[390] Murphy *et al.* 2013, 250.

[391] This magnetic 'anomaly', in combination with the results from a multi-element geochemical and magnetic survey (Dirix 2013), was originally understood as a possible indication for the presence of a metal slag dump or of remains of a metalwork atelier. The excavations brought to light that the readings were actually caused by the iron enriched natural ophiolite stone.

[392] Degryse *et al.* 2003, 271.

[393] Murphy *et al.* 2013, 250.

Fig. 5.28. Aerial view on site PQ 3, excavated in 2012. The ophiolite bedrock outcrops superficially in the northern top two sectors.

Fig. 5.29. The steep drop, interpreted as a cut in function of clay mining, in the ophiolite bedrock in PQ 3's second sector from the north. The 2nd century AD fill is recognisable in the profiles.

After the clay mining activities stopped (at least at this spot), the remaining depression was backfilled in the first-half of the 2nd century AD in order to level the surface.[394] This may have been either in function of the layout of new burial plots (see § 7.4.3) or in function of the accessibility of the area; as has been suggested above and discussed further on (see § 6.2.1), a passable road accessed the Eastern Suburbium from the southeast 'entrance' of the Central Depression.

[394] Murphy 2012, unpublished excavation report.

5.4 Funerary culture

5.4.1 Historical setting

The ancient worlds went through cycles of centuries when either cremation or inhumation was the dominant funerary rite, but both practices existed simultaneously during most of the history and throughout a variety of cultural influences.[395] The practice of cremation in the Greek World became more current from Archaic times (*c.* 800 – 480 BC) onwards, where it was practiced alongside inhumation.[396] Its popularity was, however, strongly depending on local customs. Probably not coincidentally, the most common cremation practise was secondary cremation, in which the burning of the body was followed by the interment of the human remains.[397] General shifts towards one or the other predominant funerary custom have been part of the debate whether cremation or inhumation presented the 'cheaper option'[398], without providing a satisfactory answer.[399] The ancient Greek authors contribute to the confusion, with a.o. Homeros (in his *Iliad* and *Odyssey*), Isaios (early 4th century BC) and in retrospect Plutarch (*c.* 46-120 AD) and Diogenes Laertius (3rd century AD) referring to cremations in Archaic-Classical-Hellenistic times.[400] Lucian of Samosata (*c.* 125 – after 180 AD) even contrasted the Greeks' custom of cremation with the different burial rites allegedly performed by the adjacent peoples.[401] However, the same and several other authors mention the existence of inhumation burials for these same periods[402], in a single instance as a reference to local 'excentricities'. Plato[403] gives the textbook example when he lets Socrates in one of his dialogues suggest that he had not decided yet whether his body would be burned or immediately interred. In the ancient Greek World it appears that the proper and correct burials rites mattered more than whether these involved cremation or inhumation. Neither custom was ever entirely abandoned, although one could always have been much more frequently applied.[404] The Romans appear to have drawn somewhat stricter distinctions between both funerary rites and stressed the (in many cases unjustified) constrast between them and the Greeks. According to Cicero (106-43 BC) and Pliny the Elder (23-79 AD) inhumation was the primitive burial rite of the Romans and Petronius considered inhumation as the *mos graecus* ('Greek custom') during his lifetime (27-66 AD). This is confirmed by Tacitus (56-117 AD) who mentioned that the *mos romanus* for burials was to consign the body to the flames.[405]

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[395] Rebay-Salisbury 2012, 19-21.

[396] Garland 1985, 124-127; Morris 1989, 18-22;

[397] It is an interesting question to what extent cremation traditions, such as burying the cremated remains, revokes inhumation traditions (or, of course, the other way round). Inhumation, moreover, does not always mean 'interment', as in 'covering the body with soil' (cf. *sarcophagi*, *hypogea*, catacombs, *etc.*), but can be understood as 'containment'. Collecting cremated remains into a vessel (urn) is already one form of 'burying the remains'. Burying that cremation urn is then actually a duplication of the act. As we shall see further on, the archaeological data in Sagalassos suggest that the ceramic urns were not buried, but stood 'on display' just like their stone counterparts, the *osteothekoi*.

[398] See for example McKinley 2006.

[399] Rebay-Salisbury 2012, 20.

[400] Isaios *Nicostratus*; Plutarch *De audiendis poetis*, 6; *Solon*, 12.3; *Timoleon*, 39.4; *Philopoemen*, 21.2; Diogenes Laertius *De vita et moribus philosophorum*, 5.70.

[401] Lucian *De Luctu*, 21.

[402] Thucydides *Historiae*, 1.134; Lucian *Hermotimus*, 78; Plutarch *Solon*, 10.3; *Theseus*, 20.3; 22.4; 27.5-6; 29.4-5; 32.5; 36.1; *Lycurgus*, 27.1; Claudius Aelianus *Varia historia*, 5.14; 7.19; Pausanias *Periegesis*, 2.7.3; Diogenes Laertius *De vita et moribus philosophorum*, 1.48.

[403] Plato *Phaedo*, 115.

[404] Graves 1891, 44-50; Richardson 1985, 51.

[405] Morris 1992, 42-69; Toynbee 1971, 39-40; Hope 2009, 81-82. In Republican Rome as a whole, from about 400 BC onwards, cremation appears to have been the normal practice and it remained so throughout the 1st century AD. The reign of Hadrian would then see the sudden flowering of the art of *sarcophagus* carving and the beginning of a gradual, but steadily increasing supersession of cremation by inhumation during the 2nd century AD. This process would have reached the further outskirts of the provinces by the middle of the 3rd century. This is, however, only a (too) simplified outline and reality proves also here to have been more complex. For example, the Sepulcretum at the Forum Romanum saw both the deposition of cremations as well as inhumations from the 8th till 6th century BC. Also the *Law of the Twelve Tables* indicated that both rites were en vogue during the 5th century BC, while Lucretius (99-55 BC) acknowledged three types of burial in the Late Roman Republic: cremation, embalmment and inhumation (*De rerum naturae*, 3.890-915).

One argument for the abolishment of inhumation lies in the both practical and religious view of the dead body as an unhygienic entity and a risk of pollution and contamination.[406] These beliefs extended to the house of the deceased, his family, the undertakers (all of which needed to be ritually purified) and subsequently also applied to the *necropolis* itself. Burning the body could possibly spare citizens from an unsightly and unhygienic nuisance. However, cremation was not necessarily regarded as a more cleansing way of disposal of the deceased. A decree of the senate of 38 BC forbade the burning of bodies within two miles of the city of Rome. That this was not only because of a possible fire risk is illustrated by Porphyrion, who points out that the Esquiline was made healthier after the *crematoria* (*ustrinae*) were moved farther away.[407] The association of the dead body with pollution and contamination was thus not limited to burials.

When turning towards the situation in contemporary Anatolia, and more specifically Pisidia, we have to rely on archaeological data. The information at hand is rather sketchy, with archaeological studies tending to have mainly focused on monumental burials. But all in all a picture can be reconstructed that is as complex as the ancient Greek literary sources suggest.[408] The Achaemenid Imperial administration showed no intentions to regulate the burial rites. Indeed, in the words of Elspeth Dusinberre: "[…] *the frequently local, geographically bounded variability suggests that mortuary structures might serve as a way for local Anatolian populaces to claim adherence to pre-Achaemenid traditions and inheritances, to proclaim their local roots and non-Persian identities.*"[409] Cremation appears to have been the main burial rite in Asia Minor in Hellenistic times, but also the practice of inhumation was practiced throughout the final centuries BC. The Galatians, for example, rather strictly held on to inhumation as the burial norm through Classical and Hellenistic times, but they seem to have been an exception in Asia Minor.[410] Cremation urns were already used in Urartian and Phrygian 1st millennium BC funerary traditions, in which chests or urns were buried or installed in rock-cut niches.[411] In Hellenistic times, Greek influences were already strongly felt. Many of the Pisidian cities were apparently eager to adopt the Greek culture, a process that was already underway before Alexander the Great started his eastern conquests.[412] This acculturation process also came with its associated burial traditions, *e.g.* granting intramural burial as an exceptional reward[413], the widespread use of *osteothekoi* (stone ossuaries)[414], new types of burial monuments[415], *etc.* The Hellenisation did, however, not come with a fixed burial rite. *Osteothekoi* as well as urns were indeed mainly used for depositing cremated human remains, but in some cases they were also used as ossuaries in inhumation contexts, where they could serve as vessels for the (partially decayed) remains from earlier

[406] Hope & Marshall 2000, and in this volume especialy Hope, Bodel and Lindsay.

[407] Porphyrion *Scholia* (on Horace's *Satyricon*), 1.8.14.

[408] Within the scope of this dissertation we do not aim to provide an exhaustive and complete overview of burial practices in Anatolia. We believe that in order to demonstrate that both the customs of inhumation and cremation were applied in Anatolia in general and Pisidia in particular, it is sufficient to point out some examples: the few burials in Pessinus that could be dated to (late) Hellenistic times consist of both cremations and inhumations (Krsmanovic & Anderson 2012, 66-67); the Hellenistic Alketas Tomb in Termessos offers accomodations for both inhumation and cremation (Lanckoroński 1892, 64-75); studies on the *necropoleis* of Asia Minor coastal cities Iasos, Assos and Ephesos, of Cilician Elaiussa Sebaste, Korykos and Anamur and of inland sites such as Hierapolis, Adrassos and Termessos have shown evidence for both burial traditions in the centuries preceding Roman times (Köse 2005a, 9-10, 76-77; 107-109, 130-133; 145-147).

[409] Dusinberre 2013, 141.

[410] Nixon 1977, 44-61; Darbyshire *et al.* 2000, 85-87.

[411] Köse 2005a, 76.

[412] Mitchell 1991, 119-121; Waelkens 2004, 467; Doni 2009, 216.

[413] See for example the case study Termessos (Schörner 2011). Sagalassos also had a tradition of intramural funerary monuments: *e.g.* the Augustan *heroa* to the northeast and northwest of the Upper Agora. These monuments were part of an older tradition, since also a series of *osteothekoi* were encountered in and around the Upper Agora. Köse documented 13 *osteothekoi* (Köse 2005a, attached map) of which only two were reused as *spolia* (in the Bouleuterion); the others had apparently received an honorary location on or near the political heart of the city (*Ibidem*, 178-182, 184). This tradition would wane in later Roman Imperial times: only one *sarcophagus* is encountered along the western edge of the Upper Agora and it has been interpreted as *spolia* (*Ibidem*, 225, *sarcophagus* S. 259). In constrast, no funerary monuments were encountered during the excavations in or around of the Lower Agora (not including the later Middle Byzantine cemetery at the Apollo Klarios site), which had a more economical function.

[414] Köse 2005a, 37-40.

[415] Berns 2003, 9-52.

interments.[416] The opposite phenomenon would be observed later with the rise of decorated *sarcophagi*, which in some cases have been observed to contain only cremation remains (see § 7.4.8).

In the case of Sagalassos no conclusive pre-Roman inhumation contexts have been identified yet. The evidence might be biased by the relatively small sample of evidence, mainly collected through surveys, and the difficulties inherent in dating undecorated funerary monuments. Several undecorated *sarcophagi*, as for example the two *chamosoria* in the Eastern Necropolis, might actually predate Roman times. In Roman Imperial times *arcosolia* and *sarcophagi*, despite their obviously different burial method, would coexist for several centuries. Veli Köse (see further) suggests that these two clearly diverging burial customs should be understood as representing two different 'ideologies' within the Sagalassian society.[417] Whether this differentiation is based on socio-economical, religious, ethnical or familial grounds can not be determined, although Köse notes the striking contrast in Roman names mentioned in *arcosolium* inscriptions (only one) and in sarchophagus inscriptions (almost all). The 'conservative-leaning' group of the population would then adher to cremation, seen as the local traditional burial rite, as a counterreaction against the upswing of *sarcophagi* and their associated Roman inhumation burial rites.

An exhaustive study of the *necropoleis* has been undertaken by Veli Köse, published in 2005 as *Nekropolen und Grabdenkmäler von Sagalassos in Pisidien in hellenistischer und römischer Zeit* (*SEMA* 7). For the lion's share of his study Köse had to rely on survey data, from which follows that the sample of burials was biased towards the more visible and enduring monuments: *sarcophagi*, *arcosolia* (arched funerary recesses, mainly rock-cut in the case of Sagalassos) and – to a lesser extent – large funerary monuments and *osteothekoi* (stone ossuaries). The large funerary monuments (vaulted tombs, *naiskos* tombs, *etc.*) form indeed part of his research, but are in our opinion underrepresented in comparison with, for example, *sarcophagi*. It needs to be explained why this type of burial is less represented in the surveyed sample, while one would expect that due to their monumental scale they would be the best represented category. There are several explanations for this, to some extent specific for the case study of Sagalassos:

1) Within the Eastern Suburbium it has been observed that the large funerary monuments occupy parts of the *necropoleis* that are most likely to be buried underneath post-occupational screes: neither in the more level centre of the Eastern Suburbium (which was mainly occupied by the potters' ateliers) nor on top of or along limestone outcrops, but on the terraces along the lower edges of the slopes, built into old scree deposits (**Fig. 5.9-5.10**) and buried underneath modern screes. *Arcosolia*, *sarcophagi* and *osteothekoi*, on the other hand, occupied areas that were unsuitable for the largest monuments: the steep, rocky slopes with limestone outcrops which were spared from widescale erosion and sedimentation.
2) Many of the large monuments appear to have been dismantled in ancient times and stripped of their building blocks that could be reused as *spolia*. Indeed, in many cases the parts that remained and gave away the location of a burial monument were the scattered, less useful decorative architectural elements.

Excavations, in particular at site D, site F, *naiskos* tomb, PQ 4 and PQ 5 within the Eastern Suburbium (see the following paragraphs and chapters), have provided additional data on types of burial that would be underrepresented in the survey data for obvious reasons: primary cremations, ceramic cremation urns and inhumations in pit burials or in individual tombs.

[416] Köse 2005a, 38 Footnote 208.
[417] Köse 2005a, 152; Yılmaz 2007.

5.4.2 Hellenistic ceramic urn burials at site F[418]

The find context

The oldest burials attested within the Eastern Suburbium were a series of eleven[419] cremation urns arranged in front of the southern face of the central terrace wall in site F's lower trench (**Figs. 5.4**/**5.6**). They were encountered, documented and collected during the first excavation campaigns at site F in 1990 and 1991.[420] These ceramic *cineraria* (places for depositing the ashes of the dead after cremation) actually consisted of recycled storage and cooking vessels, most with a dish or bowl that served as a lid.[421] The cremations were encountered in what appears to have been an open space. Nine burials were recovered from the 2 m wide 1990 trench, stacked closely together as a group (**Figs. 5.30**/**5.33**-**5.34**); two more urns were collected in the following year when the trench was widened 2 m towards the west. These urns stood a bit isolated from the other nine and there was also a difference in height between the two (one standing *c.* 0.40 m higher than the other). Fragments of presumed Hellenistic urns have also been encountered in the layers surrounding site F's vaulted tomb and in one of the Upper Aqueduct (UA) trenches, showing that this burial practice was widespread along the northern terraces of the *proasteion* (**Fig. 5.40**).

At the site F find context, this apparently open space, *c.* 4.00 m wide along the terrace wall, was enclosed on both sides by walls perpendicular to and abutting the terrace wall. During the 1991 campaign charcoal, bone, burned earth and pottery fragments were found in the immediate surroundings of the two complete urns. These were interpreted as resulting from the destruction of other ceramic urns[422], possibly during the construction of these perpendicular walls. Also some of the urns that did survive were damaged. However, unintentional postdepositional factors might have played a part in their destruction as well, *e.g.* the collapse of the surrounding walls, soil pressure, erosion, *etc.*

The (partial) destruction of some of the urns – for whatever reason – is less remarkable than the observation that most of them have survived this well. Especially because no indications have been encountered that the urns were buried. This lack of indications for a (grave) pit puzzled the 1991 archaeologists, who were expecting

[418] The 1990-1991 excavations at site F have been presented in the *XIII. Kazı Sonuçları Toplantısı* proceedings as well as in *Anatolian Studies* 41-42 and *Asia Minor Studien* 6 (Waelkens *et al.* 1991a, 206-212; Waelkens *et al.* 1991b, 288-291; Waelkens *et al.* 1992; 91-97, Waelkens 1992). The 2011-2012 campaigns have been concisely reported (Turkish only) in the *XXXIV.* and *XXXV. Kazı Sonuçları Toplantısı* proceedings (Claeys & Poblome 2012a; Claeys & Poblome 2013a). However, most of the data mentioned throughout these paragraphs are retrieved from unpublished excavation reports, unless specified otherwise. The anthropological study of the human remains recovered at the site have been published in the *Sagalassos* series (Charlier 1993a; 1993b; 1997).

[419] Some of the original reports appear to mention inconsistent numbers: *e.g.* fourteen urns are mentioned by Marc Waelkens (Waelkens 1993, 41), while most reports mention nine (1990) plus two (1991) burials. The difference is created by the fact that not all urns could be retrieved with their content of human remains and thus only eleven burials were identified by physical anthropologist Christine Charlier (SA-90-F-104, SA-90-F-105, SA-90-F-106, SA-90-F-107, SA-90-F-108, SA-90-F-112, SA-90-F-113, SA-90-F-114, SA-90-F-115, SA-91-F-114 and SA-91-F115). But fourteen ceramic vessels were either complete or preserved well enough to reconstruct an almost complete profile (*i.e.* SA-90-F-Z1, SA-90-F-Z3, SA-90-F-Z4, SA-90-F-Z6, SA-90-F-Z7, SA-90-F-Z8, SA-90-F-106, SA-90-F-107.2, SA-90-F112, SA-90-F-113, SA-90-F-114, SA-90-F-115, SA-91-F-114 and SA-91-F-115). Note that there are some discrepancies between both lists: three burials mentioned by Charlier (SA-90-F-104, SA-90-F-105 and SA-90-F-108) can not be linked with one of the drawn profiles. These three urns were renamed with a Z-number and it is no longer possible to reconstruct which burial concurs with which specific urn.

[420] Waelkens *et al.* 1991a; Waelkens *et al.* 1991b, 208-212; Waelkens *et al.* 1992, 94-95; Waelkens (ed.) 1993, 41-42.

[421] Eleven lids were recovered in 1990-1991: SA-90-F-Z2, SA-90-F-Z5, SA-90-F-Z9, SA-90-F-Z10, SA-90-F-Z11, SA-90-F-Z12; SA-90-F-Z13, SA-90-F-104.2, SA-90-F-112.2, SA-90-F-114.2 and SA-91-F-114.2. The lids with a Z-number can not be linked with certainty to a specific urn, even though their diameters might give a clue.

[422] Hasendonckx & Arıkan in Waelkens *et al.* 1992, 94-95. It can also not be excluded that similar material (pottery, bones and charcoal) ended up on the terrace as part of the manure effused for contemporary agricultural purposes. Since reused household vessels were used as urns, it is impossible to distinguish them in the archaeological record as a specific class of pottery. As we have seen above (see § 5.2), the coexistence of agricultural and funerary activities on one and the same terrace, even within one and the same plot, is not exceptional.

to discern some manner in which the urns would have been covered.[423] They noted some larger stones that they encountered "*on top of and surrounding the urns*" and which they interpreted as originating from a "*loose and rough structure*".[424] **Fig. 5.30** and **Fig. 5.31** show the stratigraphical relation between the urns and the terrace wall. For the urns to have been buried in a pit would signify that the Late Classical / Early Hellenistic terrace wall was almost completely buried by the time of deposition of the burials. The profile drawings on the contrary suggests that they were deposited on a level walking surface. The urns were also positioned at a considerably higher level than the foot of the adjacent perpendicular walls (**Fig. 5.31**).[425] These are relatively robustly built (western wall: 0.90 m wide; eastern wall: 0.70 m wide), but they were not foundation walls and there is no indication that they were set into a deep trench, since both faces of the walls are finished with care. These perpendicular walls may been erected as 'rib walls' (buttresses) for the Late Classical / Early Hellenistic terrace wall (which at this slight offset might have been structurally vulnerable) and from Roman times onwards they might have carried a sloping roof with the terrace wall serving as back wall for pottery workshops (see § 6.3.4), one to the west and one to the east of the central open 'burial plot'. In any case these rib walls appear to have been erected when the terrace wall was completely unobstructed. The stratigraphy does not exclude a likewise early date for these walls, but this could not be confirmed by dateable material inextricably linked with their construction phase. The collapse of the profiles of the 1990-1991 trench impeded us to gather data from the outside of these walls, while the Early Roman Imperial workshop phase had effaced any original traces on the inside. Finally, the layer covering the urns is not a fill but has been interpreted as resulting from gradual erosion.

These above arguments suggest that the cremation urns were not buried, but positioned on top of a walking level. The vessels, however, lack the type of weathering patterns that would result from their century-long exposure to the open air. The large stone rubble mentioned above might originate from a type of makeshift shelter, but also more perishable materials might have been used for this purpose. Subsequently, once the burials were no longer attended, the gradual accumulation of erosional layers on top of the assemblage would have protected them from further damage.

Alternatively, it is also possible that the urns were encountered during the large scale Early Roman Imperial interventions associated with the workshop phase, were subsequently dug up and redeposited in the open space in between both workshops. That might explain the damaged vessels and their relatively 'high' position in comparison with the surrounding walls. Both cases include the notion that the urns would have been exposed for a considerable amount of time (whether or not they could profit from some sort of improvised shelter). Both scenarios would nevertheless still result in the preservation of the lion's part of the original burials throughout the next centuries, indicating that the burials were not hampered with by anyone. This should not necessarily be explained as a token of respect for and/or fear of these burials. The preservation of the urns is as much explained by the lack of valuables in their content and by their uselessness as *spolia*.[426]

[423] After the 1990-1991 campaigns a lot of stratigraphical questions remained unanswered (the steep slopes with their related processes of erosion, accumulation and homogenisation of the layers makes it difficult to interpret the stratigraphy). One of the aims of the 2011 campaign at site F was to find the expected continuation of the burial plot and to study the related stratigraphy more closely. Unfortunately, it appeared that the whole burial plot was actually already excavated during the 1990/1991 campaigns; on both sides of the original trench the 2011 excavators stumbled upon the perpendicular walls (Claeys & Poblome in Waelkens *et al.* 2012, 140-141).

[424] Hasendonckx and Arıkan in Waelkens *et al.* 1992, 94.

[425] During the 1991 campaign it was observed that one pot was positioned *c.* 0.40 m above the other one, so there are also differences between the urns themselves (Hasendonckx & Arıkan in Waelkens *et al.* 1992, 94). This might be an argument for the hypothesis that the urns were not installed in a single event, but were deposited in consecutive rites.

[426] The looting and dismantling of burial monuments in Sagalassos was a practice that started in ancient times, as could be observed in all excavation sites with mainly funerary contexts (site D, site F, PQ 4 and the *naiskos* tomb). Grave robbing was not limited to the most lavish monuments and *spolia* were not only retrieved by dismantling the walls of larger monuments. Rectangular *osteothekoi*, for example, are also found reused as *spolia* in (mainly late) Roman constructions (Köse 2005a, 178-182), probably when they were available close to the construction site. This was also observed in 2012 during the work operations preceding the construction of the new entrance building to the site: both an *osteothekos* lid and *osteothekos* coffin were encountered as *spolia* in what appeared to have been a Late Roman residential context (not published).

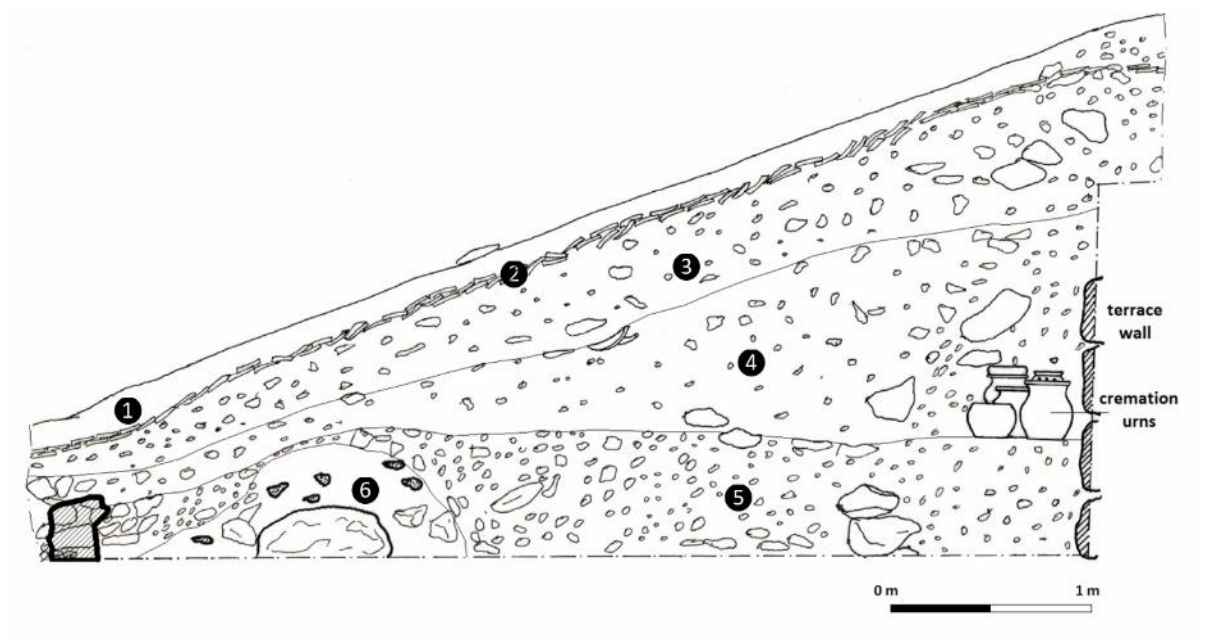

Fig. 5.30. Drawing of a section of the western profile of the 1990 trench at site F, at the level of the terrace wall with adjoining cremation urns. Layer description: ❶ top soil; ❷ erosion from pottery dump higher upslope; ❸ tightly packed soil with small limestone fragments; ❹ light brown sandy soil with limestone fragments and small to medium-sized stones (this is the layer covering the cremation urns); ❺ black soil with limestone fragments and charcoal; ❻ ash layer, containing slag and kiln waste. Drawing by M. Lodewijckx, H. Sherlock and P. De Jonghe.

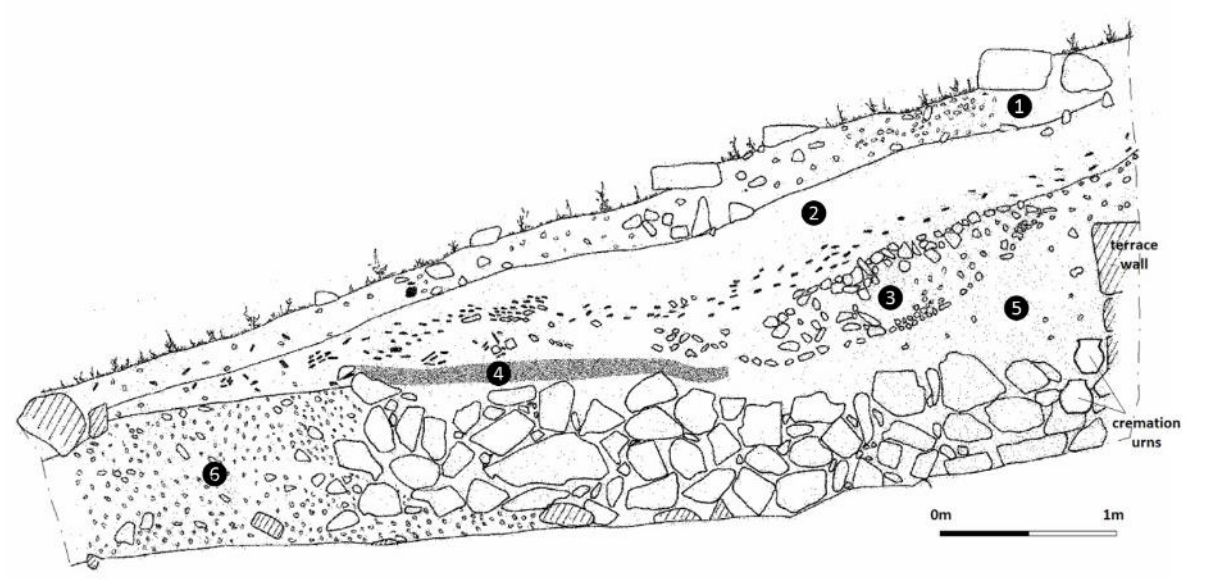

Fig. 5.31. Drawing of a section of the western profile of the 1991 trench at site F, at the level of the terrace wall with adjoining cremation urns. This profile is situated 2 m west of the profile in Fig. 29, since the original 2 m wide trench of 1990 was extended with 2 m towards the west. Layer description: ❶ top soil; ❷ erosion from pottery dump higher upslope; ❸ layer of stone rubble; ❹ lens of clay; ❺ light brown sandy soil (this is the layer covering the cremation urns); ❻ layer of very pale brown pebbles. The bottom part of the profile shows a wall perpendicular to the Classical terrace wall: this is the eastern wall of an Early Roman Imperial pottery workshop, excavated in 2011. Drawing by A. Hasendonckx and A. Kök.

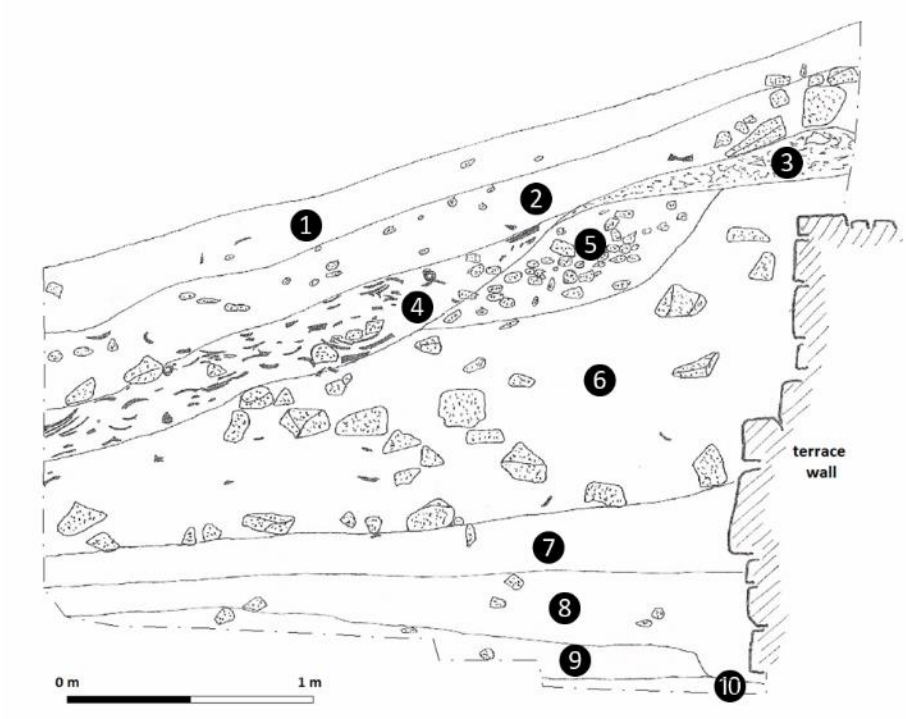

Fig. 5.32. Drawing of a section of the western profile of the 2011 trench at site F, at the western side of the Early Roman Imperial pottery workshop. This profile is situated 4 m west of the profile in Fig. 30 and 6 m west of the profile in Fig. 29. Layer description: ❶ top soil; ❷ erosion layer, partial soil formation; ❸ sandy erosion layer with lots of small limestone fragments; ❹ erosion from pottery dump higher upslope; ❺ loamy sandy lens containing lots of small limestone rubble; ❻ loamy sandy fill, containing destruction waste; ❼ compact loamy soil = living surface; ❽ compact loamy sand = living surface on top of which kiln was probably constructed; ❾ scree; ❿ clayey layer, containing burnt patches.

In 2012 one more cremation urn was encountered, three terraces above the group burial. This urn, though archaeologically complete, was very fragmentary and very little of its content of human remains could be retrieved.[427] The shape was more slender than the vessels of the 1990-1991 cremations, not unlike the 'pitcher' type 1I210 of the later Roman common wares in Sagalassos[428], but the vessel might or might not have had any handles and/or spout. During the test trenches dug on the Eastern Aqueduct sherds were encountered that were interpreted as coming from disturbed Hellenistic *cineraria*.[429] Finally, another nearly complete ceramic cremation urn came to light during the 1995 disclosing of the only known *in situ osteothekos* of Sagalassos, situated at the northern foot of the Alexander Hill in the Southern Necropolis (**Fig. 5.35**). In this case a typical round-bottomed cooking pot with a flaring rim and two handles had been reused as urn.[430] In contradiction with earlier publications, however, this is a typical Roman Imperial type cooking vessel and not a Hellenistic predecessor.[431] Also this urn was not buried; the *osteothekos* itself was being cleared from layers of earth that had enclosed it, but no actual excavations took place. The urn was just like the *osteothekos* itself – at which foot it stood – deposited on top of the flattened bedrock.

[427] Site F 2012 internal excavation report by Johan Claeys.
[428] Degeest 2000, 132-133.
[429] Martens & Vyncke 2007, internal preliminary excavation report.
[430] Degeest 2002, 290 and Fig. 1; Köse 2005a, 38-39 and Figs. 45, 104, 500-501.
[431] Personal communication by Jeroen Poblome.

Fig. 5.33 (upper). Some of the cremation urns on display in the Gallo-Romeins Museum in Tongeren in 2011.

Fig. 5.34 (left and upper left). Some of the 1990 cremation urns as they were encountered *in situ* in front of the terrace wall (upper left) and after restauration (left). These urns were deposited on an even level, while the two additional urns excavated in 1991 stood at different levels.

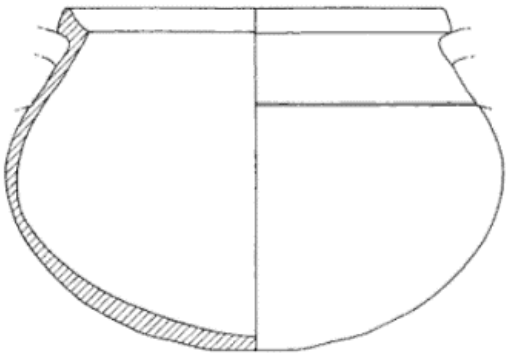

Fig. 5.35. Round-bottomed cooking vessels recycled as *cinerarium*, encountered next to the only known *in situ osteothekos*, from the Southern Necropolis of Sagalassos. Degeest 2002, 291 Fig. 1.

The ceramic assemblage

The urns were originally dated in the 3rd quarter of the 4th century BC[432], but a more thorough study of the ceramic vessels pushed the dating of the burials forward to the Mid Hellenistic period.[433] This assemblage has not yet been published in detail.

The urns could be subdivided into the following typological groups within the common wares of Sagalassos:[434]

[432] Waelkens *et al.* 1991, 208-212; Waelkens *et al.* 1992, 95.

[433] Personal communication by Jeroen Poblome. See also Van der Enden *et al.* 2014 for an up-to-date view on the Hellenistic wares of Sagalassos.

[434] The typologie of *The common Wares of Sagalassos* has been the research subject of Roland Degeest and has been published in the *Studies in Eastern Mediterranean Archaeology* series (Degeest 2000).

1) From one urn (SA-90-F-Z6) only the profile of the lower half could be reconstructed. Despite the limitations in determining its typological attributes, it does not fall within one of the three categories below and does not seem to correspond to any of the types described for the common wares of Sagalassos. While its dimensions are similar to the jugs, jars and vases described below, the lower onset of its body appears to be less rounded and it is the only example with a real base ring. It has a maximum preserved width of 18 cm and a base diameter of 10 cm. In its current state of preservation (7.5 cm high) it might actually have served as a lid, but the context in which the original excavators have found this vessel can not be reconstructed.
2) **Type 1H100 (Figs. 5.33/5.36a)**[435]: Two urns (SA-90-F-Z8 and SA-90-F-107) are jars with two horizontal loop handles (also called *kantharoi*). The handles have a round or oval section and are attached to the lower part of the shoulder (just above the widest part of the body). The vessel body is round with a flat base and an incurving neck ending in an everted rim with a somewhat flattened outer rim and a thin, rounded upper rim. SA-90-F-107 is the only complete vessel and measures 23.5 m in height and 20.5 cm in (maximum) body width, with an upper rim diameter of 10.5 cm and bottom diameter of 9.5 cm. The rim of SA-90-F-Z8 is missing, but this vessel was slightly wider (22.8 cm) and higher, with a base diameter of 7.5 cm.
3) **Type 1H110 (Figs. 5.33/5.36b)**[436]: Two handleless urns (SA-90-F-Z3 and SA-90-F-115) can be described as vases. They have an elongated rounded profile, but their resemblances end there. SA-90-F-115 has a fairly high incurving neck and a rounded, flaring plain rim, which is only marginally thickened. Its base is a concave, string-cut disk base. The pot stands 22.5 cm high, with a (maximum) body width of 20 cm, a rim diameter of 11.5 cm and base diameter of 8.5 cm. SA-90-F-Z3 has a shorter neck, a 1.5 cm high thickened vertical rim (flattened on the outside) and a flat base. Its height is 21 cm, its width 22 cm, its rim diameter 12 cm and base diameter 9 cm. There are no other known examples known from Sagalassos to be able to finetune their dating.
4) **Type 4H100 (Fig. 5.36c)**[437]: The remaining nine urns can be described as jugs (single-handled jars), with a rounded body, a flat or weakly pronounced disc base and in most cases an everted, slightly thickened rim. The only handle is attached to the neck and the lower shoulder or – in the case of the smaller versions – to the middle of the body. The handle consists of a vertical round loop with a rectangular section and with shallow grooves on the back. Roland Degeest observed that all these vessels show fire blackening and in some cases even cracks from heat stress on the side opposite to the handle. He proposes that the vessels might have been placed close to the funeral pyre with their handles pointing away from the fire. Jeroen Poblome identifies them as prototypical Classical-Hellenistic cooking vessels.[438] The heights of the vessels vary between 14.5 and 21 cm, the rim diameters between 9 and 17 cm and the base diameters between 7 and 9.5 cm.

The 'lids' (only one is an actual lid) can be subdivided into the following typological groups:

1) So-called **Achaemenid bowls** or **cups** (**Figs. 5.37/5.39**)[439]: Four of the 'lids' (SA-90-F-Z10, SA-90-F-Z11, SA-90-F-Z12 and SA-90-F-112.2) are actually handleless cups with a small, shallowly hollowed base, rounded plain body and slightly splayed rim springing from a carination at the shoulder. The type fits in a long tradition of bowls with everted rims, which probably finds its origin in glass and metal examples from southeastern Anatolia and Iran. SA-90-F-112.2 is the only complete example from site F, its decor evocating the dents of the metal 'deep version' of these cups (**Fig. 5.37a**). The type would become popular throughout Anatolia during Achaemenid times, but its production and use appears to have remained limited in Sagalassos. Nevertheless, the shape would be continued in Roman times in a

[435] Degeest 2000, 118, 254.
[436] *Ibidem*, 118-119, 254.
[437] *Ibidem*, 159-160.
[438] Personal communication.
[439] Poblome 1999a, 35-36; Poblome *et al.* 2013b, 199 ; Van der Enden *et al.* 2014.

Sagalassos Red Slip Ware version as **type 1A120**. SA-90-F-112.2 measures 9.5 cm in height and has a rim diameter of 12 cm and base diameter of 2,8 cm. The rim diameter of the other three examples measures between 12 and 16 cm; their bases are not preserved.

2) So-called ***echinus* bowls** (**Figs. 5.37b/5.39**)[440]: Two of the 'lids' (SA-90-F-Z2 and SA-90-F-Z9) were food serving bowls with an incurved rim, convex walls and a (pronounced) ring-base. This was another type that originated in the east (Iran) and would spread through the Achaemenid Empire. It would become common throughout Asia Minor from the 3rd century BC onwards and it was probably already a traditional feature in Düzen Tepe in Classical/Hellenistic deposits before the Hellenistic potters in Sagalassos picked up the type. This shape as well would live on, as **type 1B170**, in Sagalassos Red Slip Ware form. The small bowl SA-90-F-Z2, carrying three leaves on the inside[441], measures 4.2 cm in height, has a rim diameter of 10.3 cm and base diameter of 5 cm. SA-90-F-Z9 is larger (rim diameter of 16 cm), but is not completely preserved.
3) One of the 'lids' (SA-90-F-Z13) is a variation on the *echinus* bowls (**Fig. 5.39**)[442]: it has a rather shallow, hemispherical design. Its walls end in a vertical position in stead of curving inwards at the rim. Also this type is a well-known shape in the Classical/Hellenistic deposits of Düzen Tepe. The type would remain in production in Sagalassos Red Slip Ware form as **type 1B150**. Its rim diameter is 16 cm; its base is not preserved.
4) **So-called fish-plates** (**Figs. 5.38-5.39**)[443]: Three of the 'lids' (SA-90-F-104.2, SA-90-F-114.2, SA-91-F-114.2) are in fact shallow dishes with downturned or projecting rim. Two of the examples (SA-90-F-104.2 and SA-90-F-114.2) possess the small, sunken depression in the middle, which is characteristic for the fish-plates. The slip is mainly thick and lustrous, mostly orange or red/brown in colour. The slightly deeper version of this type would become popular in the wider region from the 3rd century BC onwards. The third example (SA-91-F-114.2) is a more simple dish with downturned rim, wich would also make its appearance in the region from the later part of the third century BC. This type of dishes would loose popularity after the Hellenistic period. SA-90-F-104.2 and SA-90-F-114.2 are very similar in size, with a height between 3.5 and 4 cm, a rim diameter of *c.* 13.5 cm and a base diameter of *c.* 5 cm. SA-90-F-104.2 carries two palmette stamps in its 'central depression'.
5) **Type 4J110**[444]: small lid with a (broken) knob handle and a diameter of 11 cm.

All dating arguments taken in consideration, the assemblage of urn cremations at site F seems to fall within a Mid Hellenistic time-frame, more specifically the period around 150 BC.

[440] Poblome 1999a, 72-74; Poblome *et al.* 2013b, 199-200.
[441] Waelkens *et al.* 1991a, 211 Fig.11..
[442] Poblome 1999a, 61-62, Poblome *et al.* 2013b, 200.
[443] Poblome *et al.* 2013b, 200.
[444] Degeest 2000, 164.

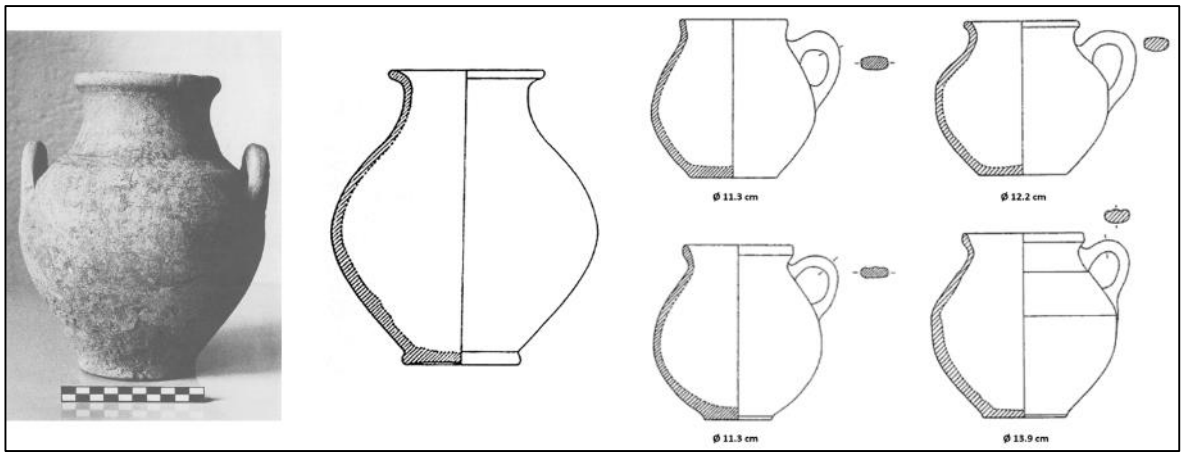

Fig. 5.36 a/b/c. Different types of Hellenistic vessels reused as cremation urns on the burial site of site F. Left: *kantharos* type 1H100 (SA-90-F-107); middle: handleless vase type 1H110 (SA-90-F-115); right: jug type 4H100.

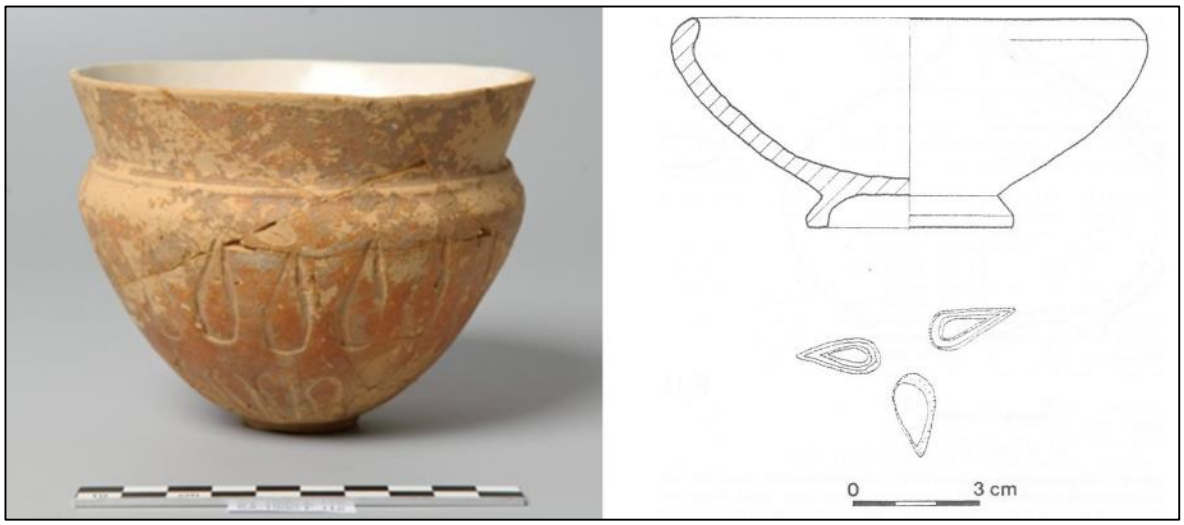

Fig. 5.37 a/b. Different types of Hellenistic vessels reused as lids of the cremation urns on the burial site of site F. Left: so-called 'Achaemenid bowl' (SA-90-F-112.2), an imitation of metal (and glass) eastern predecessors; right: so-called '*echinus* bowl' with incurved rim (SA-90-F-113.2).

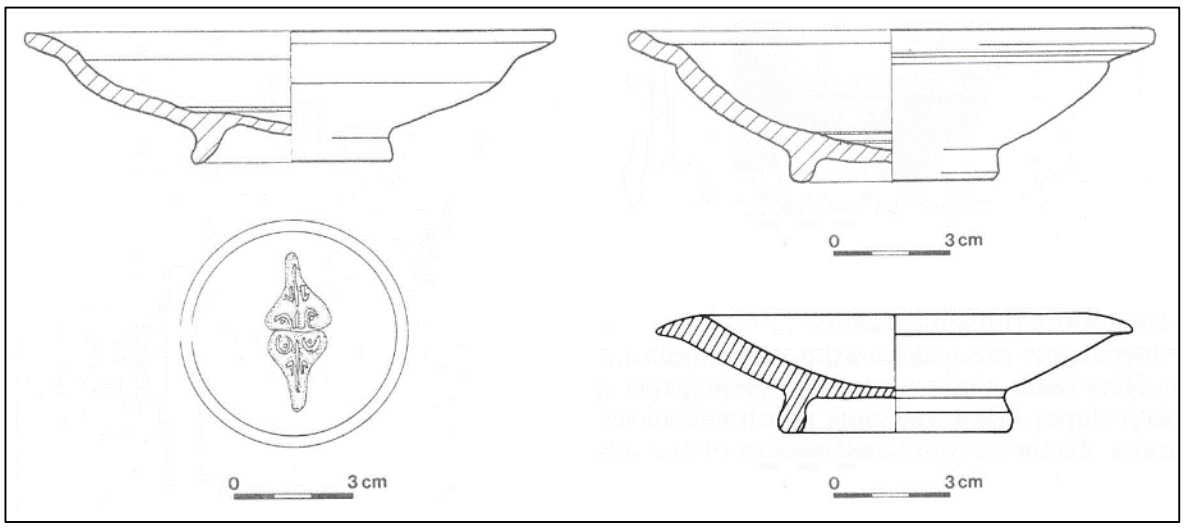

Fig. 5.38 a/b. So-called fish-plates reused as lids of the cremation urns on the burial site of site F (SA-90-F-104.2 on the left ; SA-90-F-114.2 upper right; SA-91-F-114.2 lower right).

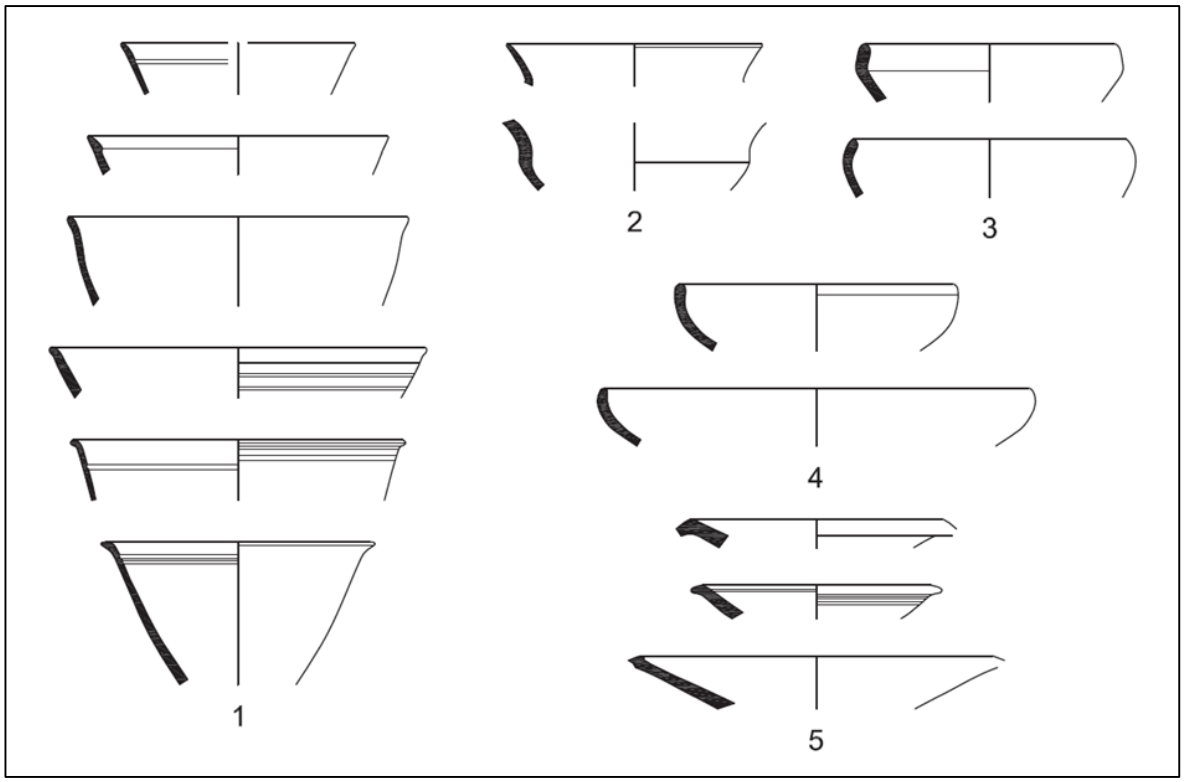

Fig. 5.39. A selection of the ceramic assemblage encountered underneath the Odeion, where a part of the Hellenistic potters' quarter of Sagalassos was located. These shapes reflect the vessels that were reused as lids of the *cineraria* at site F, especially the Achaemenid bowls (2), the *echinus* bowls (3), a variation of bowls without inverted rims (4) and fish-plates (5).

Physical anthropology

The cremated remains of the six best-preserved burials, excavated in 1990, have been studied and published by physical anthropologist Christine Charlier in the *Acta Archaeologica Lovaniensia Monographiae* I and IV.[445] The remains were well preserved, with relatively large fragments, and did not need additional conservation treatment. Each of the urns contained the remains of one deceased and the bodies must have been cremated shortly after death. All body parts are represented; there are no indications that parts of the body would be favoured or neglected while collecting the bones from between the ashes of the funeral pyre. In most cases the remains appear to have been without distinction randomly deposited into the urns, but in one case (SA-91-F-114) the remains of a child were apparently collected in a more systematic manner, starting with the feet.

Based on the colour of the burnt bones, some preliminary conclusions can be drawn about the heat that was attained in the funeral pyre: brown (300-400°C), grey/blue (*c.* 550°C), ocre (550-650°C), chalky white (above 650°C) or porcelain white (above 800°C). A large variety in colour among the burnt human remains of one individual reflects a unequal calcination of the different parts of the body; a more equal distribution of the colour reflects a better mastery of the funerary burning process. Young children are generally associated with relatively low temperatures, because the funeral pyre is kept proportionally small in order to save on wood. In the case of these eleven urn cremations from site F, the two lowest temperatures attained by the funeral pyre are indeed associated with children. Only in one case consistently high temperatures were reached, in a burial associated with a young man (SA-90-F-115). This kind of high temperatures can probably only be reached by using more and/or better wood, which would also make the funerary rites more expensive. Whether additional conclusions can be drawn in regard to the status of this young man in the Sagalassian society is a matter open for debate.

Table 5.1 shows how the majority of the burials appeared to have belonged to 'young people', *i.c.* children (3 *Infans*), youngsters (2 *Juvenilis*) or adults below 30 (2 *Adultus*), while also none of the other 4 burials could be assigned to an actual elder individual (S*enilis*). Both men (5) and women (2) are represented in the sample; in some cases the gender could not be determined, for example in the case of the children. The length of two male adults (SA-90-F-114 and SA-90-F-115) could be estimated at *c.* 1.70 m, though a large margin of error should be implied when dealing with cremation remains (fragmentation and deformation of the skeletal remains).

Despite the fragmentation of the study material and the difficulties inherent in the physical-anthropological study of burnt human remains, more than half of the sample population could be diagnosed with some serious pathologies. One young woman (SA-90-F-107) might have suffered from an abscess on the teeth. The skeletal remains of one of the children (SA-90-F-113) and of two adult males (SA-90-F-108 and SA-90-F-115) show traces of growth interruptions during infancy, probably because of periods of 'stress' (disease, malnutrition, *etc.*), with individual SA-90-F-108 suffering additionally from congenital vertebral anomalies, manifesting itself into a partially fused and deformed spine. Some of the children show signs of growth interruption: one child (SA-90-F-114) appears to have suffered from thalassemia (a recessive blood disorder which results in anemia), while another child (SA-90-F-115) shows traces of rickets (a defective mineralization of bones resulting from severe malnutrition).

[445] Charlier 1993a, 213-215; Charlier 1997, 553-569.

No. urn	Gender	Age (years)	Age (class)	Estimated length (when applicable)	Temperature funeral pyre (°C)
1990					
SA-90-F-104-105a	M	17-18	*Juvenilis*		300° to 550°
SA-90-F-104-105b	F	18-30	*Adultus*		300° to 550°
SA-90-F-106	?	20-40	*Adultus*		more than 650°
SA-90-F-107	F	16-20	*Juvenilis*		550° to more than 650°
SA-90-F-108	M	30-55	*Maturus*	170.5 ± 8.4 cm (based on radius); 162.5 ± 7.4 cm (on femur)	300° to 550°
SA-90-F-112	M	30-60	*Adultus*	'contamination': remains of second individual in same urn?	*c.* 550 °
SA-90-F-113	?	7-9	*Infans II*		300° to more than 400°
SA-90-F-114	M	25-40	*Maturus*	168.9 ± 8.4 cm (based on radius); 168.5 ± 7.4 cm (on femur)	300° to 650°
SA-90-F-115	M	19-25	*Adultus*	170.6 ± 8.4 cm (based on radius)	550° to more than 800°
1991					
SA-91-F-114-2	?	7-8	*Infans II*		300° to more than 650°
SA-91-F-115-1	?	5-6	*Infans I*		*c.* 400°

Table 5.1. Results from the physical anthropological study executed by Christine Charlier on the human incinerated remains from eight cremation contexts at site F, collected in 1990 and 1991. The table shows the gender, age (in years and class), estimated length of the individual and the estimated temperature that the funeral pyre had reached.

Discussion

In hindsight it is difficult to determine if these *cineraria* have been deposited here in a single event or during consecutive interventions, regardless of whether or not they had been relocated from their original location. It has been suggested that the observation that no burial gifts were recovered from the urns can signify a hasty burial after a catastrophic event[446], but there are no further indications for this hypothesis. Some of the pathologies described above may very well have caused the death of the individual, thus debunking the 'catastrophic event' hypothesis. If the urns had been relocated, it might mean that they are originating from different burial plots and that there is not necessarily a bond between the individual burials. If they, however, do consist of a single group of burials, then the individual burials would be expected to share a certain bond: they might belong to one *familia* (extended possibly with the slaves and *clientes*), but the group could also be bound by other social-economical, religious, ethnical or professional ties. On the basis of the results from the physical-anthropological study of the human remains only the professional bond can be seen as less likely, considering the age-gender distribution of the group.

When combining all the data, the most likely outcome is that this particular small allotment of land on a northern terrace of the Eastern Suburbium, enclosed on both sides by heavy set walls, was already in use as a burial plot in Hellenistic times. The perpendicular 'rib walls' would – as a side effect to propping up the terrace wall – have subdivided the terrace into different plots of land. The small size of this particular plot would have made it less suitable for farming, but attractive as a parcel of burial ground. Burial plots were generally open to the sky and enclosed by walls (though at other locations other more perishable borders, *e.g.* fences or hedges, might certainly have been in use without leaving traces in the archaeological record). The cremation urns were

[446] Waelkens 1993, 41-42.

apparently not buried; just like the contemporary *osteothekoi* they could have been left visible and 'tangible' for their visitors (the same was the case for the only other 'complete' ceramic urn encountered in the Southern Necropolis in 1995, see above). The damage inflicted upon some of the urns can thus be caused by natural rather than anthropogenic processes. However, some kind of shelter, in stone or wood, has to be envisaged to explain the lack of likely weathering patterns.

The burnt earth, stray bones and sherds can also result from ritual feasting activities at the burial site (see for example Roman Imperial feasting contexts at the same site F in § 6.4.4). Also the proximity of an *ustrinum*, *i.e.* the location where the funeral pyre was erected, could result in similar find assemblages; material from earlier cremations could be dispersed over the burial plot or could even get mixed in with younger burials (see for example the case of SA-90-F-112[447]). Considering the small scale of this particular burial plot one would expect that the *ustrinum* (or *kaustra* in Greek) would be found immediately in front of the burial site, unless another piece of land would have been allotted for this purpose. Layer 6 in **Fig. 5.30**, which was in 1990 described as an ash layer containing slag and the expected remains of a kiln[448], was in 1991 further excavated and described as a "*mere concentration of burned material, mainly earth*"[449]. It is thus possible that the *ustrinum* was indeed found within the same burial plot. The proximity of the funeral pyre might also explain why most of the cremation urns showed traces of extreme heating on one side (see above), although Jeroen Poblome explains that this results from their original use as cooking vessels and not from secondary burning.

This sample of burials is too small and too biased to one very specific context to be able to draw any far-reaching conclusions for the Hellenistic population of Sagalassos or to permit comparisons with other contemporary sites or with other periods within the same site. But it does allow us to discuss this particular group of burials in itself, if we may indeed assume that the individuals represented in the sample share a meaningful bond, whether familial, social-economical (a certain 'class' within the society), ethnical, religious or professional. The choice for ceramic *cineraria* in stead of *osteothekoi*[450], the lack of burial gifts, the small size of the allotment, the prevailing pathologies among the individuals and the on average young age of death are all arguments that per se may not hold a lot of weight, but that all together outline the sample group as people of modest, maybe even deficient means (while it is of course possible that 'modest' was the norm rather than the exception at that particular time and space).

The burials did most probably not result from a single event, but were gradually added to the plot (see for example the difference in height between urns SA-91-F-114 and SA-91-F-115). The distance between the two perpendicular walls (**Fig. 5.2**) is *c.* 3.90 m along the terrace wall (the walls slightly diverge towards the the south). This position of these walls might be a coincidence, or might have been imposed by the structural needs of the terrace wall. If their position is intentional, then this might tell us something about a standard plot size.[451] However, the space in the Sagalassos' *necropoleis* was not necessarily so deliberately organised, especially regarding the more simple burials. Valerie Hope states that "*in the busy suburban environment, modest burials were slotted into available spaces between, in front of and behind more grandiose monuments*."[452]

[447] Charlier 1997, 555-557.

[448] Waelkens *et al.* 1991a, 212; unpublished profile drawings.

[449] Hasendonckx & Arıkan in Waelkens *et al.* 1992, 95.

[450] The choice between a stone coffin or a ceramic vessel as final resting place is probably dictated by financial or (religious) ritual reasons (Köse 2005a, 149).[450]

[451] This incidentally corresponds with 12 *pedes* (one Roman foot equals *c.* 30 cm), a common standardised size for burial plots in Roman times: ten *pedes in fronte* (width of the plot along the road) by ten *pedes in agro* (depth of the plot perpendicular to the road) or twelve *pedes* by twelve *pedes* were by far the most frequent size for burial plots in Roman Italy (Purcell 1987, 37-38). Roman standardised measures would not have applied on a burial ground in Hellenistic Pisidia, but the origin of these typical plot sizes can possibly be found in the east?

[452] Hope 2009, 159.

5.4.3 Hellenistic *osteothekoi* in the Eastern Necropolis

Osteothekoi have mainly been documented in the Southern Necropolis of Sagalassos – which is one of the arguments to claim it as the city's oldest *necropolis*[453] – but they are also encountered in the Eastern Suburbium. Veli Köse, in his exhaustive work on the *Nekropolen und Grabdenkmäler von Sagalassos*, did not attribute any *osteothekoi* within what he defined as the Eastern Necropolis. But four of the *osteothekoi* that were situated by Köse outside of the four main *necropoleis* can actually be ascribed to the Eastern Suburbium and its associated *necropolis*, more particularly the *eckige Ostotheken* ('rectangular *osteothekoi*') coffin EO. 56 and lids EO. 61, EO. 62 and EO. 63 (**Figs. 5.40**-5**.41 a**). The fragments EO. 56, EO. 61 and EO. 62 were all three encountered north(west) of the Theatre, which is expected to be the western extremity of the Eastern Necropolis (where it may overlap with the Northern Necropolis). EO. 63 was found in the Central Depression. None of them have been found *in situ*, but on the other hand their location is not atypical either. They do not appear to have been reused as *spolia* and their original location might have been near to their site of discovery. East of the *necropolis*, north of the road through Elmalı Pınar, two more lids of rectangular *osteothekoi* were encountered. These might have been part of a small *necropolis* lining the road into the Eastern Suburbium; there are no indications higher upslope for burials that might account for a possible downslope erosion of these funerary remains. There is indeed a nearby quarry, which might explain their unfinished appearance, but *Halbfabrikate* are certainly used as final resting places of the deceased.[454] Finally, fragments of *osteothekoi* have been encountered during the excavations on site G (during the excavations of the so-called 'Gymnasion' in 2004), on the PQ 4 site (the large burial compound) in 2012, during the excavation of PQ 5 (the church) in 2013, within the Theatre Street North (TSN) trench in 1999 and in the PQ 1 east slope workshops in 1999-2000.[455]

Rectangular *osteothekos* EO. 56 is the only *osteothekos* coffin still visible in the Eastern Necropolis, standing south of the road that leads up along the Theatre into the Eastern Suburbium (**Fig. 5.40**). Its decoration – consisting of round shields and armory on two opposite sides and a (Doric type) door on a third side – was never completely finished. EO. 61 and EO. 62 are rectangular *osteothekos* lids located a bit more to the west. Both are in the shape of a gabled roof with *akroteria* and with a lion on top. They appear to be in varying states of finishing: the lion of EO. 62, for example, shows a lot of detail while the front pediment and *akroteria* are undecorated. The opposite pediment of EO. 62 shows an eagle with spread wings on top of a column-like pedestal. Lid EO. 63, found in the Central Depression, is of the same type (gabled roof with lion). The two lids encountered in the Elmalı Pınar area represent simple gabled roofs with little decoration and detail (**Fig. 5.41b**). One probably carries an unfinished rosette in its front pediment.

The examples known from the Eastern Necropolis are mainly fragments encountered in excavations or as loose finds. It cannot be stated with certainty that their find location matches the location of their original erection, but since it is hard to believe that these bulky and rather unpractical carved stones would have been dragged in from further away to be reused as *spolia*, we suggest that in most cases they would only have been used as building material if they were available near the construction site. The observations in the field seem to confirm this, since they were encountered in the excavations within or on the edges of the Eastern Necropolis (TSN, southern trenches of site G, PQ 1, PQ 4, PQ 5 and eastern slope Central Depression), while sites in the centre of the Eastern Suburbium (northern trenches of site G, PQ, PQ 2) did not procure any fragments (**Fig. 5.40**).

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[453] Köse 2005a, 17-22.

[454] Several burial monuments mentioned in the catalogus part of Veli Köse (Köse 2005a, 169-243), *osteothekoi*, *sarcophagi* as well as *arcosolia*, appear to have been unfinished. Maybe these can be associated with unexpected deaths, for which no appropriate coffin was ready. This might in turn mean that quarried burial monuments, such as *osteothekoi* and *sarcophagi*, were only made on order and that there was not a stockpile at hand.

[455] All these excavations were done under the supervision of Peter Talloen. The 2004 excavations are published concisely in the *XXVII. Kazı Sonuçları Toplantısı* (Waelkens (ed.) 2005, 279-280). There are as yet only internal preliminary reports at hand for the 2012-2013 excavations.

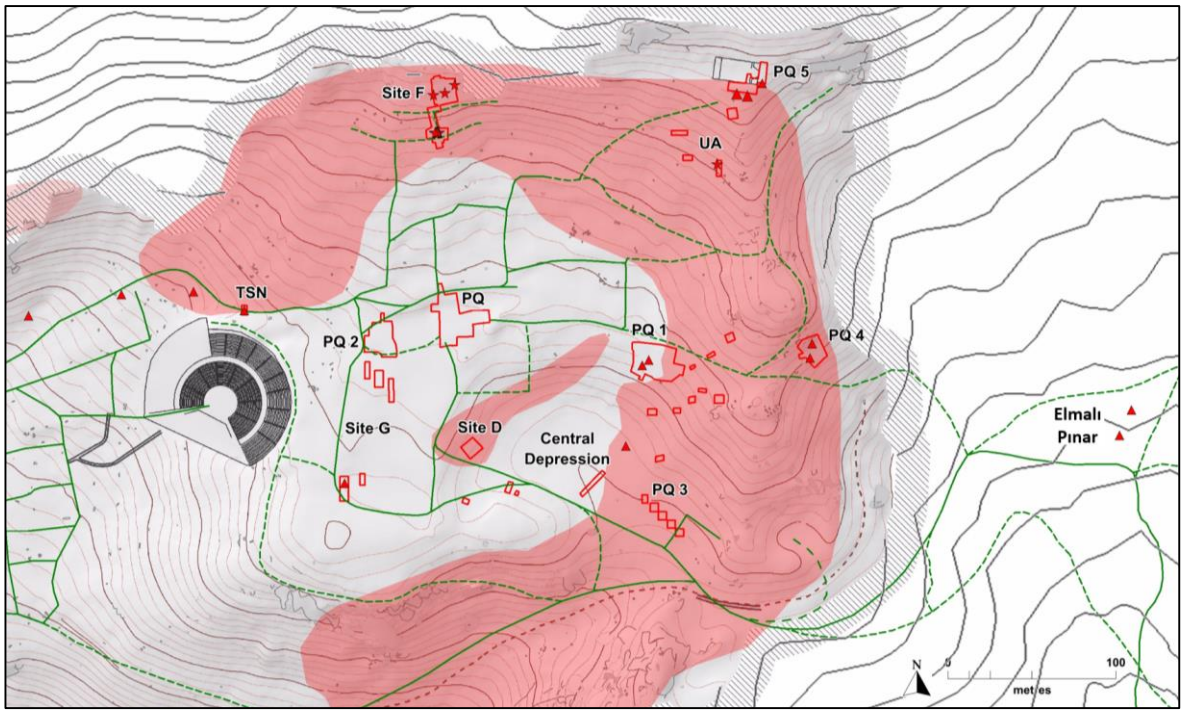


Fig. 5.40. Overview of the Eastern Suburbium, the Eastern Necropolis (in shaded red its maximum extension in Roman times) and its associated Hellenistic funerary contexts: *osteothekoi* (triangles) and ceramic cremation urns (stars). Two *osteothekos* lids were found in the Elmalı Pınar area, close tot he main road. The (Roman Imperial) road network is indicated with green lines.

Fig. 5.41 a/b. *Osteothekoi* found in and around the Eastern Suburbium. On the left: rectangular *osteothekos* coffin EO. 56, still standing north of the Theatre. On the right: two gabled lids from rectangular *osteothekoi* found near the road through Elmalı Pınar.

Both *osteothekos* coffin EO. 56 and nearby *osteothekos* lid EO. 62 were clearly unfinished (**Fig. 5.41 a**). This phenomenon has also been observed among other types of stone *cineraria*, *e.g. sarcophagi* and vase-shaped *osteothekoi*. Apparently, after the relief work was done *en bossé* in the quarry – with only the rough outlines of the figures and decoration carved with a pointed chisel – the piece was brought in unfinished state into the *necropolis*. There the decorative work could either be continued by the sculptors or the client could chose to use the stone coffins in their unfinished condition.[456] Different levels of precision can also be recognised in the workmanship among the pieces that did undergo the full production circle. This can at least partially be attributed to the artistic qualities inherent to the individual sculptor, but it might also point towards the option for the client to chose among different 'finishing programs' depending on the amount of money he is willing/able to pay.

The *osteothekoi* in Sagalassos carry relatively little dateable elements. The 'house-shaped' type of *osteothekos* was common in the area between Lake Burdur and the borders with Lycia and Pamphylia.[457] The militaria displayed in many of the *osteothekoi* should not automatically be associated with soldier burials, but it is clear that this decoration scheme proudly refers to the warlike reputation of the city and its people[458], as it is encountered on monuments throughout the city. Köse suggests that this 'military' decor is gradually replaced, probably from the 2nd century BC onwards and under the influence of the western coastal cities, by statue-like figures, *phiales*, busts and palm branch wreaths. The garland would only be introduced from the Early Roman Imperial time onwards.[459] *Arcosolia* (see § 7.4.9) are the natural successors of the *osteothekoi*; they probably originated from *osteothekoi* inserted into niches and would evolve into rock-cut rectangular or square coffins with very similar decorative themes as the Late Hellenistic and Early Roman Imperial *osteothekoi*. Köse dates the Sagalassos *arcosolia* not earlier than the end of the 2nd century AD, but leaves some room for an earlier date in the case of one *arcosolium* in Kapıkaya.[460] The argumentation above seems to favour an earlier date for the appearance of *arcosolia*. Indeed, it would otherwise seem that we are left with a hard-to-explain hiatus in monumental burial monuments between the short-lived vase-shaped *osteothekoi* in Augustan times and the emergence of *arcosolia*, *sarcophagi* and larger burial monuments (vaulted tombs, temple-shaped tombs, *aediculae*, *etc.*) from the later second century AD.

[456] Köse 2005a, 28.
[457] Bracke 1993, 25 and Footnote 94.
[458] Mitchell 1991, 119-121; Mitchell 1992; Bracke 1993, 16, 19-20.
[459] Köse 2005a, 46-73, 151, 163-164.
[460] Köse 2005a, 165.

5.4.4 A Π-shaped ashlar funerary monument at site F[461]

Still within site F, during the 2012 northern trench excavations, the remains of an ashlar monument were uncovered. The structure had a Π-shaped[462] floor plan, measuring 4.20 in width (east-west) and – at least in its final phase – 3.35 m in depth (north-south) (**Fig. 5.3** and **Attachment 2**). Most of the structure was dismantled – which can also be witnessed in other ashlar monuments in the Eastern Suburbium – most probably to reuse the ashlars as *spolia*. These demolitions as well as later interventions make it difficult to reconstruct the original layout of the building, but it is clear that the monument was open towards the south, with *antae* ('projecting wings') ending in benches on both sides (**Figs. 5.43**-**5.44**). Its location and its association with (younger) surrounding structures and features suggest that we are dealing with a burial monument.

In order to construct the monument, a bedding trench was dug into the sloping natural substratum, consisting mainly of a cemented, fossilised scree. The trench was dug *c.* 0.60 m deep at the level of the *antae* and only *c.* 0.25 m at the central part of the structure. This pit was filled subsequently with mortared rubble, creating a high foundation 'platform'. The foundation carried the ashlar superstructure, consisting of a back wall with two *c.* 2 m long and 0.60 m wide *antae* ending in benches, of which the eastern anta-with-bench had been completely dismantled. The western bench, measuring 0.68 m in width and 0.38 m in height, was supported by stylised carved legs (**Figs. 5.42-5.43**). The currently visible remaining parts of the back wall, constructed of mortared rubble, are most probably a later adaptation in an attempt to reuse the original monument. In between the *antae*, the original floor, which must have consisted of large limestone slabs, was recovered as *spolia* as well: the negative imprint of some of the slabs was still recognizable in the front part of the mortared rubble. The height difference between the front half and back half of the mortared rubble fill in the centre of the monument suggests that the original slabs were laid in steps, possibly continuing to form a *krepidoma* ('stepped platform') along the front side of the structure. The only preserved original ashlar parts of the building were parts of the western anta – because it formed an integral structural part of the younger vaulted tomb that was built against it (see § 7.4.5) – and some ashlars making up the back wall's foundation that were deeply buried into the mortared rubble. There are no indications that columns would have been placed in between the *antae* in order to carry a possible roof; the limited depth of the foundation *in antis* effectively refutes a reconstruction with columns.

[461] The description of the monument is based on the field notes and preliminary excavation report of the 2012 campaign at site F. A concise version of this report has appeared in the *XXXV. Kazı Sonuçları Toplantısı* (Claeys & Poblome 2013a).

[462] Whether to call this ground plan U-shaped or Π-shaped depends largely on its orientation. Since the site F monument opens to the south, a description as Π-shaped seems most fitting. Moreover, when depicted as a generalised floor plan (independent of its orientation), most types of monuments are conventionally drawn as opening to the south (see for example Berns 2003 and Cormack 2004, both presenting an extensive overview of Asia Minor funerary monuments). This is the type of burial monument that Olivier Henry calls 'Π-shaped' or 'Pi-shaped' (Henry 2011), Alfred Laumonier refers to them as *'chapelles funéraires'* (Laumonier 1936, 300) and Christof Berns uses the term '*kubische Grabaedicula*' (Berns 2003, 141-143, 175).

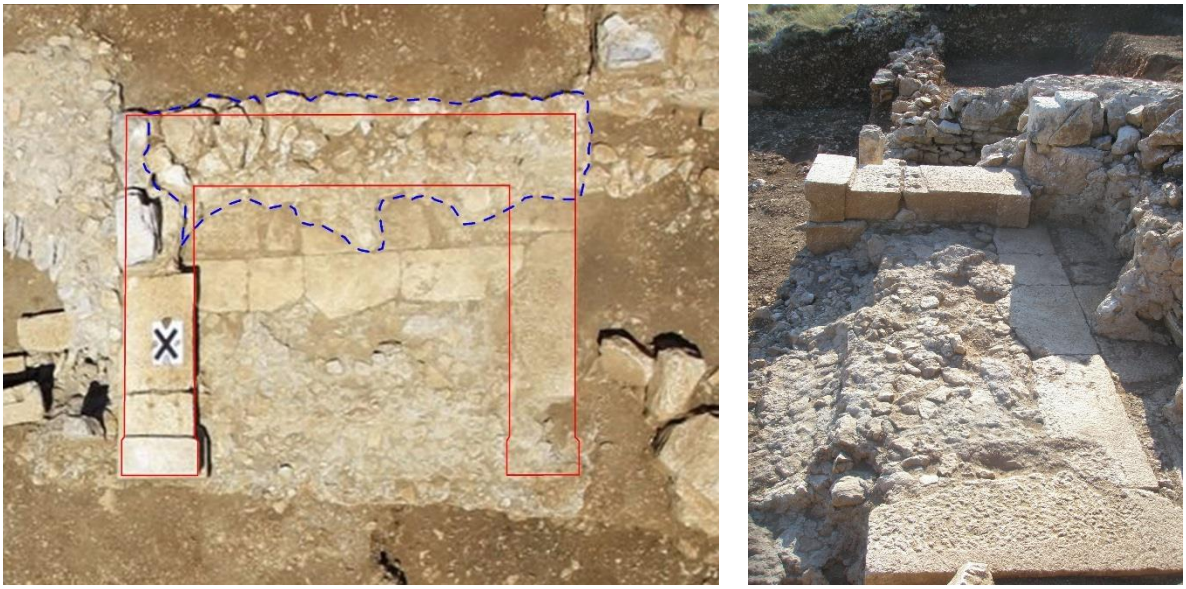


Fig. 5.42. Left: top view of the monument, clearly showing its ashlar Π-shaped structure (full red line), opening towards the south. The right anta of the monument and the rest of the superstructure were dismantled. The mortared rubble back wall (blue dotted line) is most likely a later addition in an attempt to reuse the remains of the monument. Right: view from the east, more clearly showing the imprints of large stone slabs, apparently laid out in steps, in the mortared rubble fill.

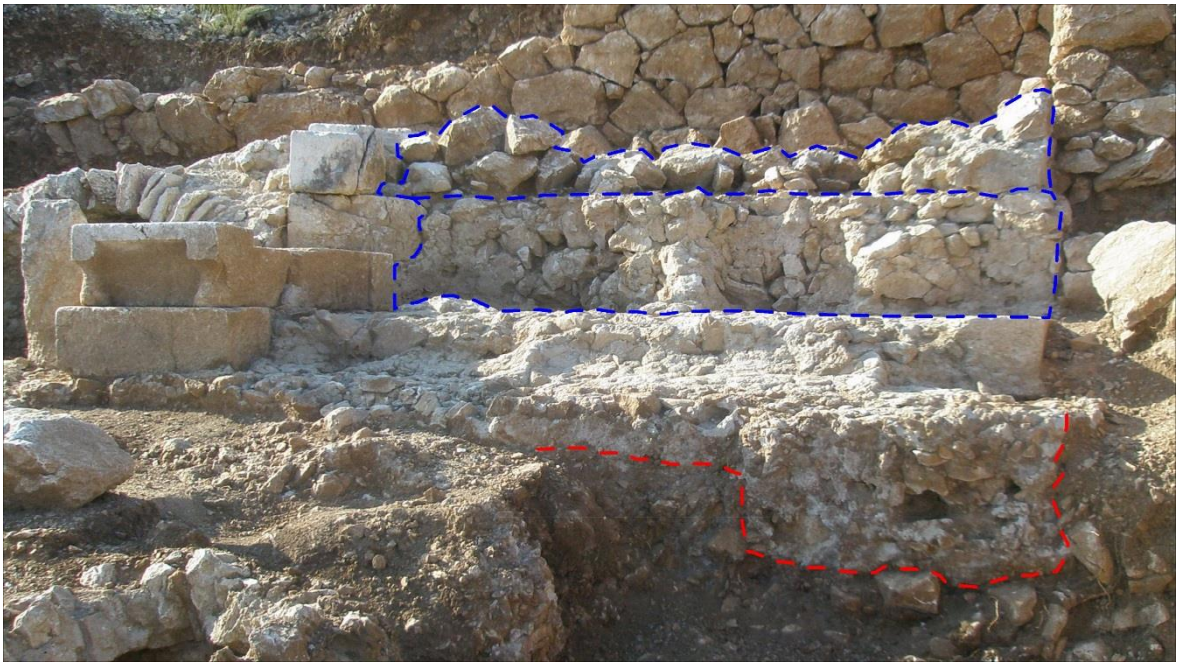


Fig. 5.43. Frontal view on the monument from the southeast. The side and back walls originally rising up behind the benches were dismantled. The mortared rubble fill foundation (red dotted line) is *c.* 0.60 m deep beneath the *antae* and *c.* 0.25 m beneath the central part of the structure. In the central part of the fill the imprint of some stone slabs can be recognised, as well as the difference in height between the front part and back part of the mortared rubble (forming steps). The rubble back wall (blue dotted lines) is most probably the result of two phases of later additions. The preserved parts of the western anta could not be dismantled because they formed an integral structural part of the Roman vaulted tomb built against it. In the background the upper terrace wall of site F, which must have been constructed before the ashlar monument could be built (see § 5.2).

***Aedicula* tombs in Anatolia**

This rather simple plan would suggest to represent a widespread tradition in Asia Minor funerary architecture, but that appears not to be the case.[463] This freestanding type of funerary monument is most commonly referred to as *aedicula* ('little shrine/house/temple').[464] Similar types of structures are known from Assos[465], Ephesos[466], from Kandıra in Bithynia[467] and from several Carian sites, *i.c.* Labraunda[468] (**Fig. 5.44**), Teke Kale[469] and Ancinköy[470] (**Fig. 5.45**).[471] The closest comparable examples, however, are attested in Termessos (see further).

Resemblances can be found, for example, in tomb T07 at Labraunda, where the construction was surrounding two *chamosoria* (rock-cut *sarcophagi*). Olivier Henry reconstructs this monument as a roofless enclosure (**Fig. 5.44**), probably because of the size of the structure – with 8.45 m it stands at double the width as the site F monument – and the presence of one of the *chamosoria in antis*, which would prevent the posting of additional supporting columns. The Teke Kale example is very similar to the Labraunda tomb T07, both in its general layout and in its dimensions. It is likewise constructed around a central chamosorion and in this case as well the surrounding walls are interpreted as *temenos* walls rather than walls carrying a roof structure. The Teke Kale tomb is dated as early as the 4th or early 3rd century BC.[472] Henry suggests a link between the burial function of the structure and the similar layout of Hellenistic funerary altars and backs this up with a text by 2nd century AD geographer Pausanias who describes "*the shrine of Aeacus, a quadrangular enclosure of white marble*" [473] on the island of Aegina.

The superstructure of two Π-shaped tombs at Ancinköy (**Fig. 5.45**) is better preserved, as the walls still stand to heights of respectively 3.3 and 4.17 m. The *antae* ended in slightly projecting pillars (actually sham architecture). The earliest visiting researchers, *e.g.* Cousin and Deschamps in 1900 and Laumonier in 1936, did not mention the presence of any traces of burials within the monuments, but their position within the Ancinköy *necropolis* – with free-standing *sarcophagi* in the immediate surroundings – confirms their funerary nature. Christof Berns proposed a reconstruction with two columns *in antis*, but neither Alfred Laumonier nor Henry mentioned any evidence for this. The limited size of these monuments – the largest of the two tombs has a width of *c.* 4.4 m – would indeed make a roofing possible without the need for additional supports. Henry thus reconstructed the monuments with a continuous architrave, a gabled roof of stone slabs and pediment. An architrave and several of the roof slabs were indeed found in the immediate surroundings of the structures.[474]

[463] This type of burial structures are defined as "*strange monuments*" by Kurtz & Boardman 1971, 246. On the other hand, the Hellenistic tradition of monumental Π-shaped altars is better known, with famous (larger) examples in Magnesia (altar for Artemis), Pergamon (Zeus), Klaros (Apollo and Dionysos), Priene (Athena), *etc.*
[464] Berns 2003, 141-143.
[465] Clarke *et al.* 1882, 126-128 and Plates 29-32.
[466] Hörmann 1951, 56-57, Fig. 6: this concerns the suspected remains of a funerary *aedicula* that were reused as *spolia* in the Byzantine Johannes Church.
[467] Cremer 1992, 10-11, Footnote 36, Table 1.
[468] Henry 2011.
[469] Ateşlier 2006.
[470] Laumonier 1936, 300, Fig. 13; Berns 2003, 174-175; Henry 2011.
[471] Olivier Henry also mentions two Π-shaped tombs from Greece, *i.e.* from Olynthus and Alipheira (Henry 2011, 173 Footnote 26).
[472] Ateşlier 2006, 145-177.
[473] Pausanias *Periegesis*, 2.29.6. English translation by W.H.S. Jones, & H.A. Ormerod (1918).
[474] Henry 2011, 168-172.

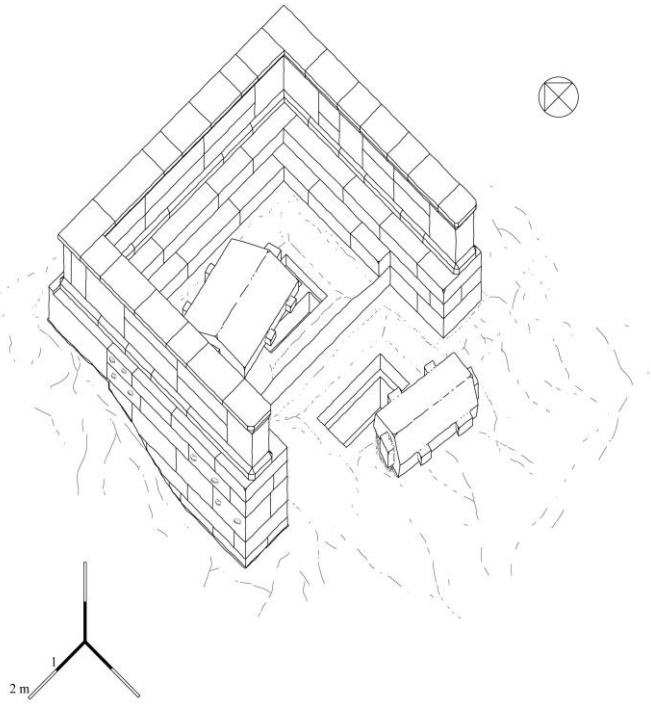


Fig. 5.44. Reconstruction of the Π-shaped tomb at Labraunda. Olivier Henry suggests a roofless structure (Henry 2011, 174, Fig. 28).

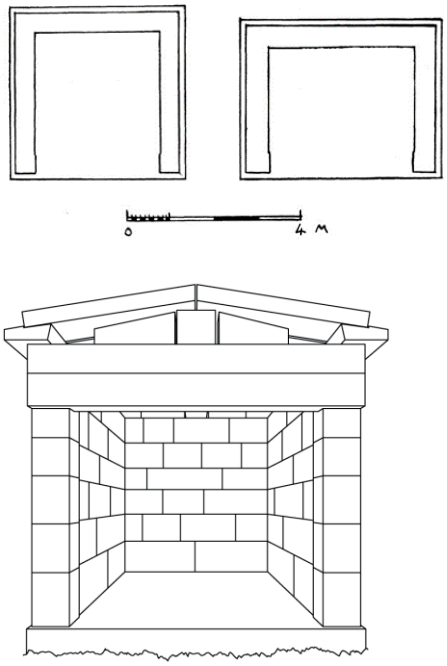


Fig. 5.45. Upper: ground plans of the Π-shaped tombs at Ancinköy (Laumonier 1936, 300 Fig. 13). Lower: tentative reconstruction (Henry 2011, 174 Fig. 27).

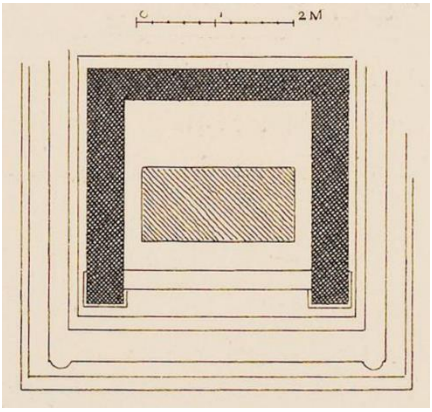


Fig. 5.46. Vaulted *aedicula* tomb of Armasta at Termessos (Lanckoroński 1892, 116 Fig. 86 detail).

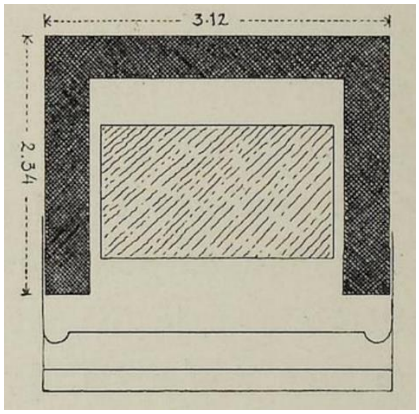


Fig. 5.47. Vaulted *aedicula* tomb of Aur. Chryseros at Termessos (Heberdey & Wilberg 1900, 192 Fig. 68).

However, the closest relevant examples are found in Termessos (**Figs. 5.47**-**5.52**). Here the tradition of Π-shaped *aediculae* seems to have incorporated features of the decoration scheme of the famous rock-cut tomb of Alketas[475], one of Alexander the Great's Diadochi. Especially the (foot)bench, on which the *klinè* ('bed') of the *sarcophagus* is resting, would become a recurrent theme in both the freestanding *sarcophagi* and in more elaborate burial monuments. The feet of these benches would sometimes take the shape of lion's paws, but they could be more stylized as well, as was the case in Alketas' tomb. The basic Π-shape of some of the funerary aedicula at Termessos, then again, might be based on the rock-cut tombs, where the *aediculae* apparently succeeded a period dominated by *arcosolia*-shaped tombs (**Fig. 5.48**). Once the originally narrow door, as seen in these examples, would take up the whole width of the monument, the actual Π-shaped *aedicula* is formed.

[475] Alketas, the brother of Perdikkas, was a Macedonian infantry general in the army of Alexander the Great. He committed suicide in 319 BC when he was betrayed by the city elders of Termessos, the city where he had sought refuge after losing a battle against Antigonos Monophthalmos at Kretopolis. His tomb in Termessos is famous for its decorations and remarkable for the combination of a *sarcophagus* and an *osteothekos* in the same layout (Lanckoroński 1892, 64-69).

The rock-cut tomb shown in **Fig. 5.49**, for example, displays the 'textbook' ground plan. This *aedicula* contains an *osteothekos* and several grave *stelae* ('slabs of stone erected for funerary purposes') instead of the more common *sarcophagus*. As mentioned above (see § 5.4.1) this does not necessarily hold a chronological implication, but it might be an additional indication for the transitional phase this type of tomb appears to represent. **Fig. 5.50** shows a constructed Π-shaped burial monument, but the outer sides and top are left largely unworked; only the inner and façade parts that would have been visible in a rock-cut tomb are finished.[476] There thus appears to be an evolution from rock-cut tombs to this kind of free-standing monuments, probably because the amount of suitable and attainable vertical rock surface was limited. The constructed Π-shaped *aediculae* would eventually evolve into real free-standing monuments, worked on all sides, but their canonical sham architecture appears to remain as a reference to their rock-cut forbearers (**Figs. 5.51**-**5.52**). Additional features commonly shared by these monuments are their small size (not exceeding 4.5 m in width) and the use of benches and/or a *krepidoma* in order to raise the *sarcophagus* from the ground. The use of benches in funerary architecture was rather common in Pisidian funerary architecture[477], and has been interpreted as a tradition of providing subsistence to the deceased.[478]

Fig. 5.48. Rock-cut tombs in a vertical rock face at Termessos. There is a clear differentiation between the older *arcosolia*-type tombs at the bottom and the *aedicula*-type tombs at the top (photographer: Ingo Mehling, 2012).

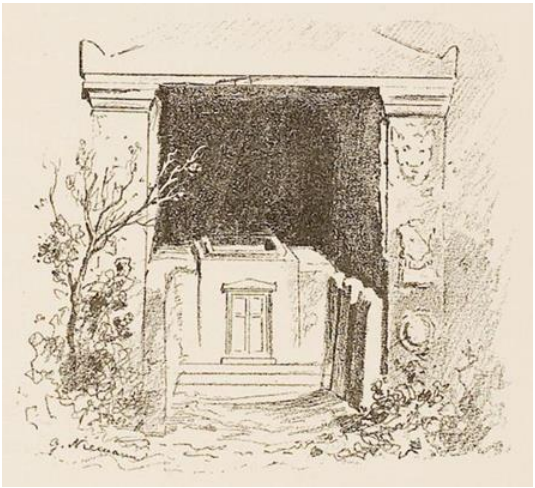


Fig. 5.49. Rock-cut funerary *aedicula* tomb in the Southern Necropolis of Termessos, containing an *osteothekos* and *stelae* (Lanckoroński 1892, 69 Fig. 21).

[476] In Cremna another 'hybrid' type of funerary monument can be recognised in the 'tomb on south cliff', which is partly rock-cut and partly constructed of ashlars (Berns 2003, 231-232; Cormack 2004, 201-203). A similar evolution from rock-cut tombs to a type of 'hybrid' tombs of which the rear part was dug into the mountain slopes was attested at Phrygian Hierapolis. The sides of these tombs were left undecorated, thus recalling the tradition of rock-cut tombs developed in Asia Minor's southern regions. Eventually, completely freestanding monuments would appear in the plain areas as well from the end of the 1st century BC onwards (Sobra & Ronchetta 2013).

[477] See for example Lanckoroński 1892 and the catalogues in Berns 2003, 169-262 and Cormack 2004, 161-328.

[478] Yılmaz 2007.

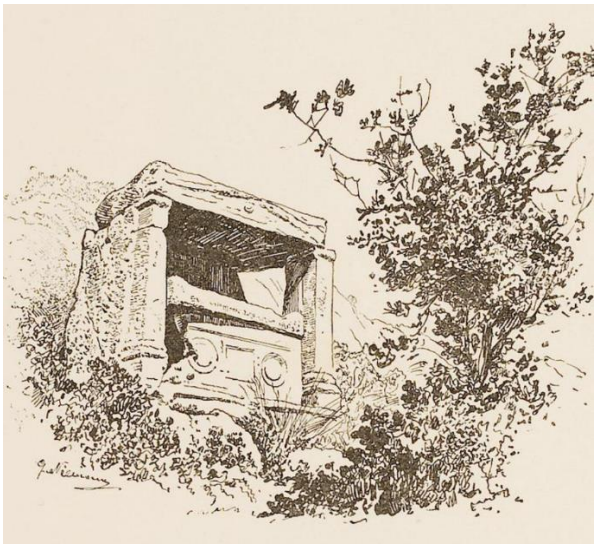


Fig. 5.50. Small *aedicula* tomb in the Southern Necropolis of Termessos. The pediment and roof are carved from one monolithic bloc. The sides and top of the monument are only roughly worked. A stone bench, half-hidden, runs along the front of the monument (Lanckoroński 1892, 69 Fig. 21).

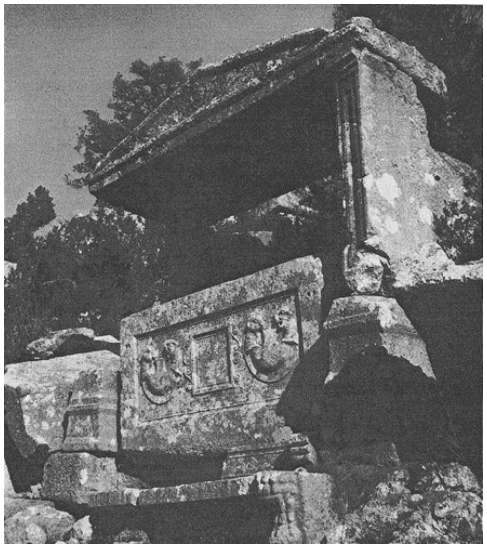


Fig. 5.51. *Aedicula* tomb in the Southern Necropolis of Termessos. Notice the bench with stylized lion's paws and the details of the sham architecture of pilasters on top of pedestals (Bean 1979, Fig. 62).

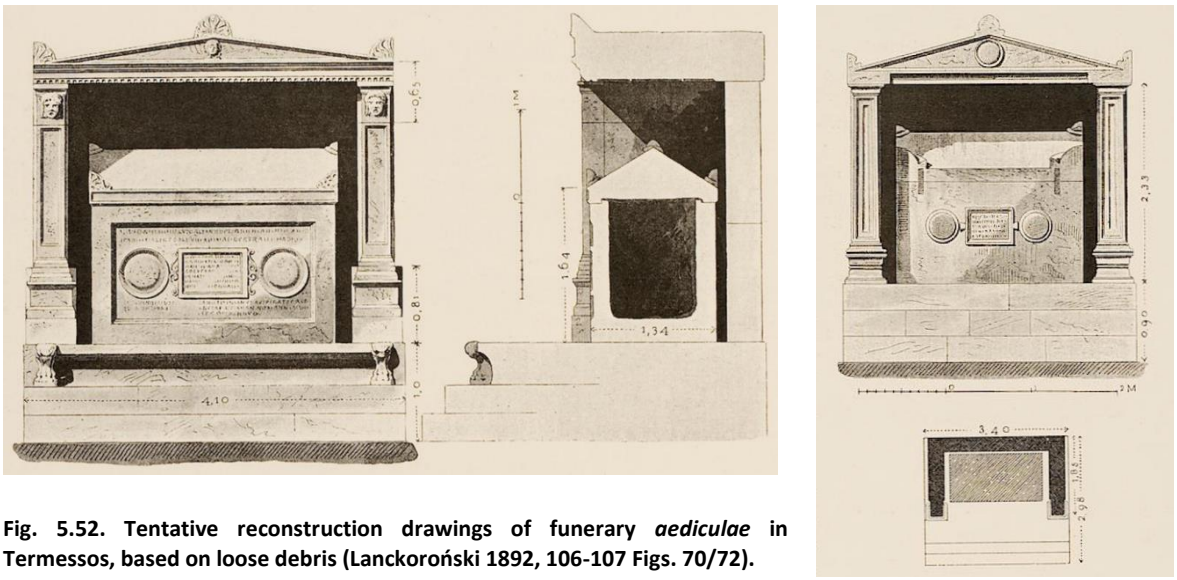


Fig. 5.52. Tentative reconstruction drawings of funerary *aediculae* in Termessos, based on loose debris (Lanckoroński 1892, 106-107 Figs. 70/72).

The Hellenistic monument at site F

No finds could be retrieved from the bedding trench of the monument's foundations. Stratigraphically the construction predated a layer that was dated by its ceramic content in the second half of the 1st century AD and which partially covered the central mortared rubble fill (L76, **Fig. 5.53**). The top of this layer would temporarily serve as a walking level. This would mean that the monument was already dismantled to a large extent when this layer could form. In front of the monument, and stratigraphically within the same layer, the bottom part of a large *in situ* Hellenistic *pithos* was unearthed (**Fig. 5.54**). Because of the lack of its original content no additional clues towards the function could be gathered. Since all other (older, contemporary and younger) features and finds that *could* be identified within site F's 2012 trench were associated with funerary activities, the *pithos* can possibly be associated with (dumping of) feasting activities. The monument thus must have been constructed before the

second half of the 1st century AD. Since the burial monument had apparently already been at least partially dismantled by that time, it is likely that its construction date should be pushed at least a few generations earlier.

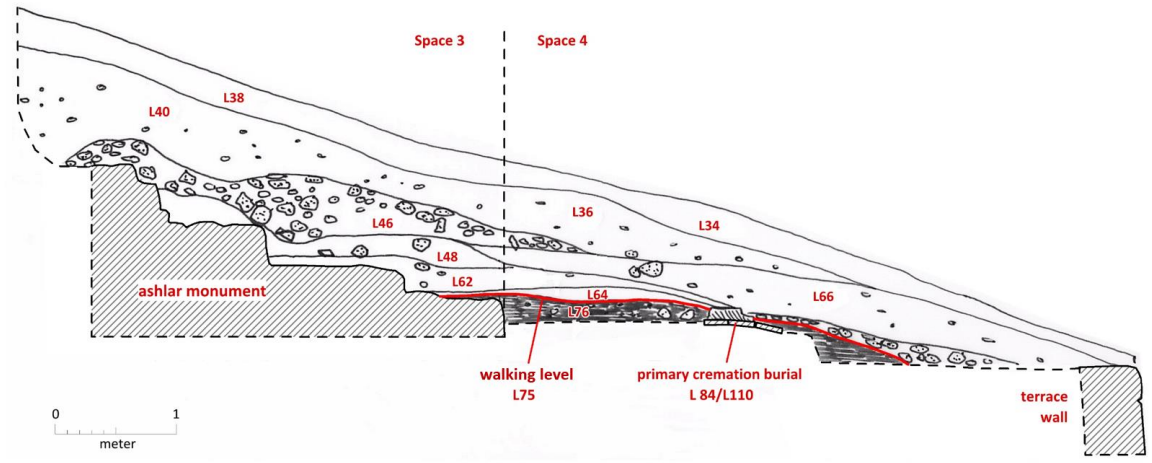


Fig. 5.53. View from the west on the profile across the site F ashlar monument. Layer L 76 is dated to the second half of the 1st century AD based on its ceramic content. It covers a Roman Imperial primary cremation (L84/L110, see § 6.4.1) and parts of the ashlar monument. The top of this layer has been interpreted as a temporary walking level (L75), with the 2nd century AD as a *terminus post quem* (based on the content of a pit that was dug into this walking level, see § 6.4.4), confirming the date of the layer below. The Hellenistic *pithos* (L136) was encountered in the layer below the primary cremation (not on the sketch).

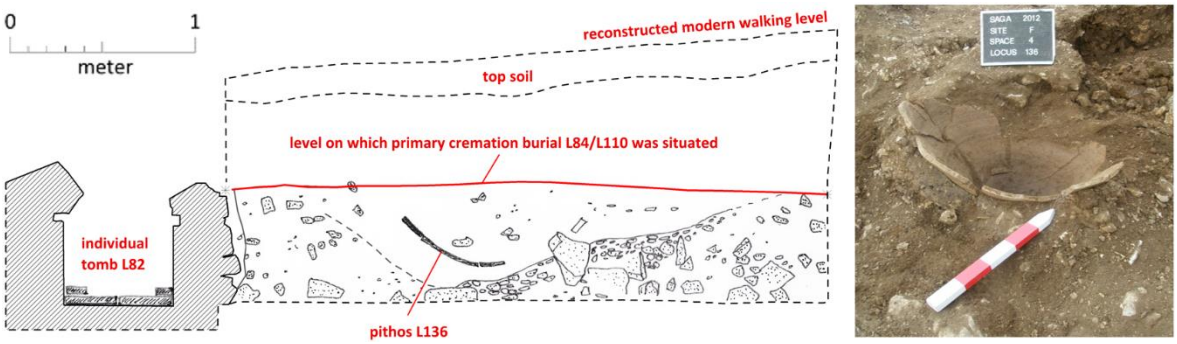


Fig. 5.54. Remains of a Hellenistic *pithos* (L136), encountered in front of the Π-shaped burial monument at site F. Left: view from the south on the profile showing the *pithos* in its stratigraphical position, with respect to the surrounding features (Roman Imperial - Late Roman individual inhumation tomb L82, see § 8.4.2; primary cremation L84/L110, see § 6.4.1) and layers.

Despite the limited remains of the site F ashlar monument, there are convincing elements that the Sagalassos example follows the same tradition of the above-mentioned structures. First of all there is the Π-shaped ground plan, with dimensions very similar to the Termessos and Ancinköy funerary *aediculae*. There are also indications for several large limestone slabs forming a series of steps *in antis* and possibly in front of the monument, forming a *krepidoma* similar to the Termessos examples. The small benches on both sides are a variation of the continuous benches seen along most of the freestanding funerary monuments in Termessos. The layout and dimensions of the structure (*c.* 2.95 m wide and an estimated 1.7 m deep) as well as the presence of the benches strengthen the identification of the site F monument as an *aedicula* originally containing a *sarcophagus* rather than (an) *osteothekos/i*. The benches are interpreted as the foothold of the *sarcophagus*, which in itself serves as the symbolic bed of the deceased.[479] In every Termessos example the *sarcophagus* indeed rested immediately on top of the level created by the top of the benches. This might have been the case in the site F monument as well before the central slabs were broken out (**Figs. 5.42**-**5.43**). The size of the site F monument would have allowed

[479] Lanckoroński 1892, 72.

a roofing structure without the need of additional columns. Once again the Termessos and Ancinköy examples offer the closest analogies and in each of those cases the roof consisted of a gabled structure with a pediment. That this was probably the most common roofing structure in Late Hellenistic – Early Roman Imperial monumental funerary archaeology in Sagalassos as well, can be deduced from the Augustan *heroa* in the centre of the city.[480]

Thus also the architectural characteristics of the ashlar monument seem to favour a (late) Hellenistic construction date: the presumed presence of a *krepidoma*, the simple ground plan (Roman monumental funerary tombs were more likely to be more elaborate in both layout and decoration) and the ashlar style of construction. None of these arguments are convincing in themselves, but all together and in combination with the stratigraphical evidence mentioned above, they favour a pre-Roman Imperial date. On the other side of the spectrum the monument is most likely constructed not before the 2nd century BC: civil burials would only start to take on more monumental forms after the 3rd century BC[481], and it is unlikely that Sagalassos would be on the forefront of this evolution. Dates in the 1st century BC and 1st century AD are proposed for the above-mentioned analogue *aediculae* from Ancinköy and especially Termessos.[482] All arguments together seem to point towards a 1st century BC construction date for this monument.

These observations and analogies allow us to tentatively reconstruct the site F ashlar funerary monument as a Π-shaped *aedicula* preceded by a *krepidoma*, with *antae* ending in benches that protrude from the standing walls and with sham architecture pillars carrying a gabled roof with pediment (**Fig. 5.55**). The structure in its original layout was most likely previsioned to contain a *sarcophagus*.[483] A *sarcophagus* coffin broken in two and its accompanying lid were found 5-9 m downslope of the monument (S. 253 in the catalogus of Veli Köse[484]). There are no other features in the immediate (excavated) surroundings that could have served as a podium for a *sarcophagus*, which is why the association with the ashlar monument is likely. Köse suggests that *sarcophagi* in Sagalassos only appeared in the 2nd century AD, a date for which he could only rely on their decorative characteristics and inscriptions. This means that in the case of Sagalassos the date proposed for the *chamosoria* and for a lot of the other 'blank' *sarcophagi* – of which the site F *sarcophagus* is an example – remains open for debate. It can, however, not be excluded that this particular *sarcophagus* dates to the monument's later phase of use associated with the mortared rubble back wall. It can also not be excluded that the site F ashlar monument originally served for the display of one or more *osteothekoi* (compare with the Termessos *aedicula* in **Fig. 5.49**), but its elongated layout and the presence of a smashed *sarcophagus* in the immediate surroundings seem to refute this. Indeed, the use of *sarcophagi* in Asia Minor rather appears to be a continuous phenomenon from Hellenistic times through Early Roman Imperial times[485], with eventually in Sagalassos a boom in freestanding *sarcophagi* throughout the 2nd and first half of the 3rd century AD.

[480] Waelkens *et al.* 2000, 554.

[481] Berns 2003, 21.

[482] Lanckoroński 1892; Laumonier 1936; Berns 2003, 9-19, 175; Cormack 2004, 24-28. Sarah Cormack does not include any of these funerary *aediculae* in the catalogue part of her *Space of Death in Roman Asia Minor*, indirectly indicating the pre-Roman date for this type of tombs.

[483] Marc Waelkens preliminarily suggested that the burial might have functioned as a roofless 'funerary enclosure' in which a family could collect the *osteothekoi* containing the cremated remains of their family members (Claeys *et al.* 2012, 22). The earliest *osteothekoi* appear in Sagalassos no later than the 3rd century BC (Köse 2005a, 163; see also § 5.4.3). Even though Π-shaped enclosures are indeed known from a.o. Assos (Berns 2003, 10 Fig. 1) and from the above-mentioned examples in Labraunda and Teke Kale, the much smaller size of the Sagalassos site F monument fits more closely in the tradition of the *aediculae*.

[484] Köse 2005a, 224.

[485] See for example also the use of *sarcophagi* in temple tombs, which Christopher Berns dated as early as Augustean times based on their architectural decoration (Berns 2003, 144-145).

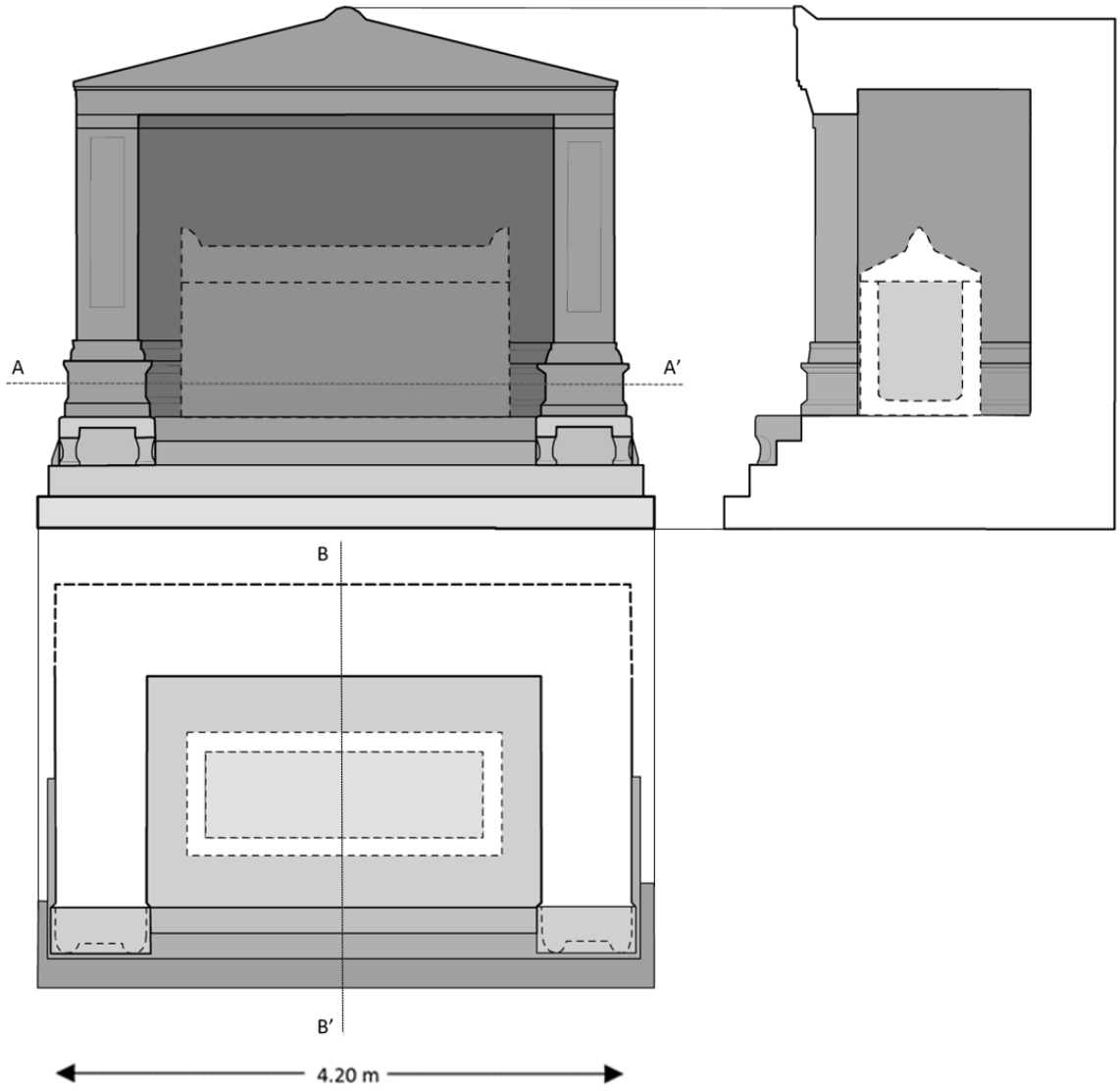


Fig. 5.55. Tentative reconstruction of the original layout of the ashlar burial monument at Sagalassos' site F: frontal view of the elevation (upper left), ground plan A-A' (lower left) and cross section B-B' (right). The dimensions of the ground plan are based on the remains as documented in the field (the width of 4.20 m is based on the distance between the two benches, not on the reconstructed stereobate); the proposed reconstruction of the superstructure is highly tentative, but based on known contemporary Π-shaped funerary *aediculae*, as seen above.

6 EARLY ROMAN IMPERIAL

The reign of Augustus to the middle of the 2nd century AD (*c.* 25 BC – *c.* 150 AD)

6.1 Introduction

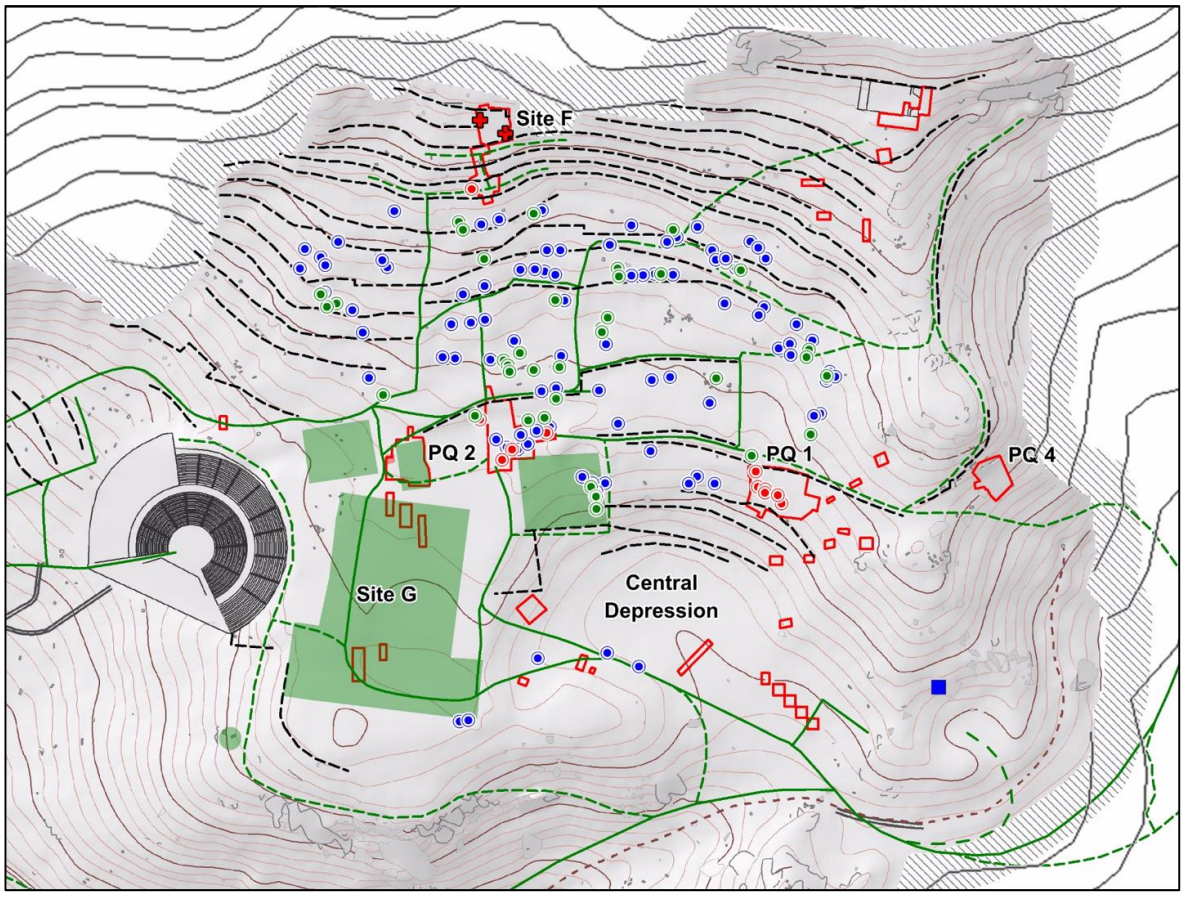
This chapter takes off with the dead of Amyntas (37-25 BC), client king of the Romans, and the reign of Emperor Augustus. This period coincides to a large extent with the Sagalassos Red Slip Ware (SRSW) phases 1-3. For an overview of the relation between different chronological referencing systems, see **Tables A-B** in the 'General Remarks'.

In the next paragraphs we will discuss the infrastructural (see § 6.2), artisanal (see § 6.3), funerary (see § 6.4) and communal (see § 6.5) presence within the Eastern Suburbium. The infrastructural paragraphs deal with the upkeep of the terraces (see § 6.2.3), which were described in detail in the previous chapter (see § 5.2) and with the water infrastructure that could be dated to this period (see § 6.2.2). The main part of these paragraphs are, however, subjected to a reconstruction of the roads (see § 6.2.1), not only throughout the *proasteion*, but also with regard to the adjacent areas (especially Elmalı Pınar and Gökpınar). It seems that this period saw the rapid development of a street network that would define the layout of the quarter for the next centuries, which is most likely the layout that can be reconstructed from the geophysical surveys. The most imposing water infrastructures – *i.c.* the eastern aqueducts – should probably be dated to the following period, which is why they will be treated in the next chapter (see § 7.2.2). The artisanal paragraphs cover the emerging of the potters' quarter in general (see § 6.3.1) and the workshops at sites PQ (see § 6.3.3), PQ 1 (see § 6.3.2) and site F (see § 6.3.4) in particular, followed by an overview of possible other artisanal activities (see § 6.3.5) and a discussion on the potential research biases involved in the study of the artisanal presence within the Eastern Suburbium (see § 6.3.6). The funerary culture is represented by a puzzling primary cremation at site F (see § 6.4.1), by the earliest tombs encountered within the PQ 4 burial compound (see § 6.4.2), by the vaulted family tomb at site F (see § 6.4.3) and by a study of the remains of sepulchral feasting activities (see § 6.4.4). The communal presence, finally, emerges with the site G complex (see § 6.5.1) and with a *schola* at site PQ 2 (see § 6.5.2) within a larger monumental quarter in the southwest of the *proasteion* (see § 6.5.3).

In sharp contrast to the previous period, relevant archaeological data for this chapter could be derived from almost every archaeological trench opened in the Eastern Suburbium: site F is represented with (a) pottery workshop(s), a primary cremation context, a familial tomb and funerary feasting activities, site G and its surroundings are being developed into a more monumental quarter, standing out from the rest of the *proasteion*, the earliest workshop remains encountered at site PQ 1 date back to Augustan times, a (communal?) building is erected at site PQ 2, the earliest funerary monuments along the PQ 3 street might date to Early Roman Imperial times, as do the earliest tombs of site PQ 4. The only sites missing in this list are PQ 2, PQ 5 and site D. The latter two are located in marginal zones of the *proasteion* and the Late Roman workshops constructed at site PQ 2 are most likely obscuring earlier remains. This is also implied by the structural remains encountered immediately to the north (street and terrace wall) and south (monumental building), which could be dated to this period.

The information gathered from the excavations was greatly upgraded by the knowledge gained from other disciplines, such as the various field and geophysical surveys, physical anthropological work, study of various material specialists (especially on metal, glass, faunal and botanical remains) and the geochemical soil survey. This study is furthermore greatly indebted to the valuable work done by cartographers, geographers, geologists and palaeobotanici who studied and mapped the study area and the wider region.

As is the case with the other chapters of Part 2 of this thesis, the overarching discussions will be reserved for Ch. 10, in which the data presented in detail in these chapters can be reflected not only against the wider geographical and historical setting, but can also be understood in a more trans-chronological framework.



Map displaying the major sites and features mentioned throughout Ch. 6. The outlines of the excavated trenches are indicated in red, the streets in green lines (dashed lines for uncertain reconstructions), the (presumed) terraces in dashed black lines, the public quarter in shaded green, the kilns with circles (blue for kilns recognised by geophysical survey, red for the excavated kilns and green for the supposed presence of additional kilns), the main limestone quarry with a blue square and the *bustum* burials with red crosses.

6.2 Infrastructure

6.2.1 Street network

Access routes to the city of Sagalassos

The main approach to the city centre of Sagalassos from the valley below probably happened via routes coming in from the south and southwest. The blue shaded area of **Fig. 6.1**, indicating the steeper slopes, shows how the topography surrounding Sagalassos prevents any easy direct access to the city. Not only was the city bordered by steep hillsides both to the north and south, but also access from the east and west was hampered by difficult slopes. The southern routes previously and preliminarily reconstructed that lead into the city from the valley below had to overcome gradients too steep to allow cart traffic. But there was an option to reach the city from the south along more moderate slopes, by following a larger detour around the Alexander Hill massive and climbing up through Gürleyik Pınar (**Fig. 6.1**). The steepest stretches of this route were similar in gradient as the road from the southeast leading up through Gökpınar and Elmalı Pınar into the Eastern Suburbium. A road along this path could have accommodated wheeled traffic. The location of the Eastern and Southern Necro*poleis* did not exclude that such a route existed, but other approaches from the south appear to have been favoured. Additional surveys of this area might help in reconstructing the possible access roads.

Nevertheless, the accumulated evidence from the surveys, test trenches and extensive excavations in the city centre itself suggests that wheeled traffic was not used inside the city centre. There are no wheel ruts visible at locations where the flagstones of streets (*e.g.* the Colonnaded Street, the street in between the Neon Library and Late Hellenistic Fountain House) or squares (*e.g.* Lower and Upper Agora) are preserved.[486] Moreover, large stretches of the north-south oriented streets had to be laid out in steps and/or with staircases (*e.g.* at three sections along the 280 m long Colonnaded Street[487]). Also the more level east-west oriented main traffic axes regularly exceeded maximum inclinations for transport by cart or carriage.[488] Challenges of steep slopes could in principle be met by the Roman urban planners through bypassing stairs/steps with a side street departing from the main axis, which would give the cart traffic the option of ascending and descending the slope at a more manageable grade.[489] However, in Sagalassos the options for diversion from the main streets were very limited and there are no indications that such solutions were applied. The question thus arises whether the access routes to the city itself needed to be 'drivable'. Cartloads might have been brought up to the city borders and loaded onto pack animals in order to continue the transportation into the city.

The same question applies for the access route through Gökpınar and Elmalı Pınar into the Eastern Suburbium of Sagalassos (**Figs. 6.1** / **6.2** no. 7 / **6.3**). In 2013 a tentative reconstruction was made for this road, based on evidence from geophysical survey (for the final stretch into the Central Depression) and on observations made while surveying the Elmalı Pınar and Gökpınar gorges east and southeast of the Eastern Suburbium. These observations included the documentation of visible stretches of road (limited to the parts where rocky outcrops could not be avoided)**,** the presence and orientation of funerary monuments, the presence of slag (which was used in the roadbuilding[490]) and topographical restrictions (the road should not be too steep to disallow wheeled traffic with heavy loads) (see further for more details). The reconstructed part of the eastern route into the suburb is *c.* 1010 m in length and surmounts *c.* 128 m in altitude (*c.* 1450-1578 asl) (**Fig. 6.3**). The gradient is relatively evenly distributed over the whole length of the road, ascending with an average of 12.7 %. Over the

[486] The street system and associated water infrastructure of Sagalassos have been studied and published by Femke Martens (Martens 2007; 2008a).

[487] Waelkens *et al.* 1990a, 193 and Fig. 6.

[488] Martens 2007, 340-341; 2008a, 196. Slopes of up to 15 % are considered as the maximum inclination for wheeled transport; slopes below 7 % are considered to comfortably accommodate it (Chevalier 1997, 108).

[489] However, it needs to be kept in mind that even *if* the urban street network was accessible for cart traffic, there were many instances where access of wheeled transport would have been restricted or altogether banished from (parts of) the urban centres. Impediments could be raised by civic officials, but also by residents themselves (Kaiser 2011, 49, 56-58).

[490] Forbes 1965, 153 mentions how cinders and slag are even processed into the surfaces of the so-called '*viae ferrae*'.

full length of this 1010 m, the path is wide enough to allow the passage of a wheeled cart and large stretches create fallback options to allow the crossing of two carts.

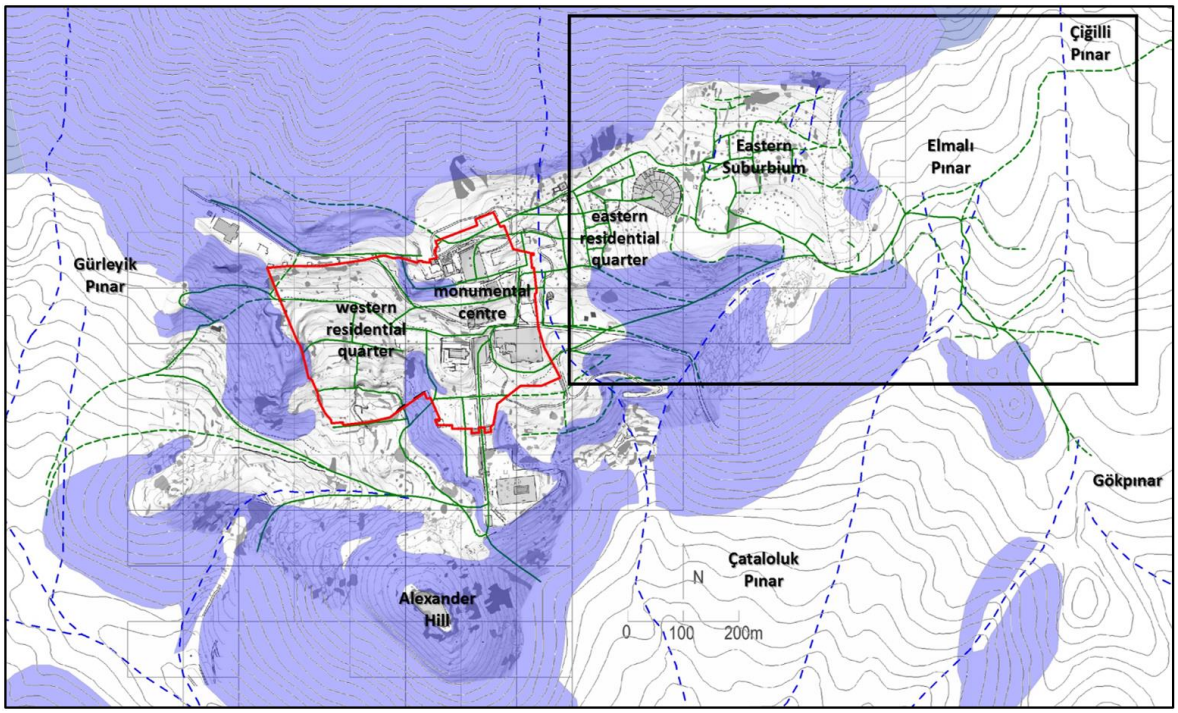


Fig. 6.1. Map showing the possible (main) access routes into Sagalassos (green lines). The city centre is indicated by the (presumed) contours of the Hellenistic city walls in full red lines, while the seasonal streams are indicated by dashed blue lines The areas shaded in blue highlight the hillsides with slopes above 25 % and clearly show to what extent Sagalassos is topographically enclosed by steep hillsides. The route that circumvents the Alexander Hill by following the Gürleyik stream is the only route into the city from the south that would have been passable for cart traffic. However, no indications have been encountered (yet) for a road along this route. The black rectangle shows the location of Fig. 6.2.

Only at some points along the *c.* 1 km long route could this road be reconstructed by direct observations of remaining sections of road surface. The suggested route after all follows for a large extent the floors of the Central Depression, and the Gökpınar and Elmalı Pınar catchment areas, where, because of erosion processes, it is most unlikely to encounter the original road surface without excavating or coring. However, with the added evidence of secondary indications for the presence of a road, a reconstruction of the route can be proposed (**Fig. 6.3**, nos. 1-12):

1. In 1997 eight test trenches were dug on the slopes of the Eastern Suburbium's Central Depression as part of a multi-annual research project on the Potters' Quarter involving core drillings (1997-1998), test trenches (1997-1999) and extensive excavations (1999-2001). In trench 7, in the southwest corner of the Central Depression a "*thick package of yellow loam mixed with volcanic rock fragments*" was encountered at a depth of *c.* 1 m below the current walking level (**Fig. 6.4**).[491] At the time, this feature remained unidentified, but the similarities with the sounding on the street north of the coroplast workshops are convincing (**Fig. 6.11**). Most likely we are dealing here with a road surface of the type *via glareata* (a gravel road). The volcanic mix might originate from a layer of volcanic tufa slabs that would have formed the original road surface, as was the case in the street north of the coroplast. Regardless of this test trench also the geophysical survey and the route of 'least resistance', based on the topography, suggest that the route would pass through this trench. Indeed, this is the only route out of

[491] Poblome & Buyuran 1997, 117 (internal excavation report); Poblome & Waelkens 1998, 129.

the floor of the Central Depression that would have allowed the transport of the limestone blocks hauled from the quarries to the southeast of the Eastern Suburbium. In the same trench, as well as in the neighbouring trench 8, an artificial platform with a fill of middle sized stones was recognized. This can preliminarily be interpreted as the scant remains of a burial monument; three more (ashlar) monuments were encountered immediately to the north, of which one was excavated in 1989 (see § 7.4.5).

2. Where the road crosses the Central Depression it shows up strongly silhouetted on the geophysical survey map (see **Attachment 20**). The road appears to be bordered on both sides by walls, which can be interpreted as either supporting the road or even lifting the road off the (seasonally) wet Central Depression floor.
3. The large limestone quarry in the southeastern corner of the Eastern Suburbium (see § 5.3.1) only had one possible exit route, which was fringed on both sides by high, crescent shaped piles of stone chips resulting from quarrying and finishing the blocks. Since the stones were used a.o. in construction sites in the upper part of the city centre of Sagalassos, the stones must have been transported along the reconstructed route, being the only possible route that would allow such transport uphill (see also no. 1 above).
4. Outside of the 'core' of the Eastern Necropolis and separated from the Eastern Suburbium by the eastern ridge, some remains of *sarcophagi* are encountered. In one case the remains consist of no more than an artificial platform (or a toppled *sarcophagus*?), while in the second case (30 m towards the north and within view) a *sarcophagus* coffin is still positioned *in situ* on top of its podium (**Fig. 6.5**). The inscription panel on one of its long edges must have been pointed towards a road running west from and probably parallel to the *sarcophagus*.
5. Sections of the road along the eastern hillside of the ridge to the east of the Eastern Suburbium were apparently saved from erosion (no screes or soils higher upslope that could have covered the road). The road is best recognisable where it was cut through limestone outcrops that crossed its path and where circumventing the rocks was not an option. The rocks show clear adjustments in order to create a *c.* 1.80-2.00 m wide passage, while the remains also seem to show cart ruts measuring *c.* 1.50 m in width[492] (**Fig. 6.6**).
6. Find location of two *osteothekos* lids (see § 5.4.3). Their presence did probably not result from erosion, since there are no traces of a *necropolis* higher upslope; the *osteothekoi* lids probably belonged to a series of burials that lined the road leading into the Eastern Suburbium.
7. The blocks from the limestone quarries attested to the east of the road (see § 5.3.1) must have been used in constructions either in the city centre itself, in the Eastern Suburbium or at the *villa* site in Gökpınar. In each case the quarry roads must have had a moderate gradient, allowing the comfortable transport of the stone either upslope or downslope. It is likely that one main road, from which byroads would spring towards the individual quarries, would have served this purpose (see also no. 12).
8. The vertical face of a huge boulder, which must have rolled down and settled on the floor of the Elmalı Pınar gorge, was originally quarried (see § 5.3.1). At some point the upper half of the quarry face was subdivided into panels for votive inscriptions and/or reliefs, indicating a new phase of use of the location. The rock face was pointed south – towards the incoming travellers along the presumed road leading through the area – and thus served as an ideal 'billboard' for inscriptions and reliefs.
9. Some parts of the riverbed of the seasonal stream through the Elmalı Pınar catchment area might have been suitable for traffic during the drier seasons (**Fig. 6.7**). The presence of slag (see no. 10) might be an indications that both the riverbed and a parallel stretch of road, no more than 10 m to the west, might have been used at the same time, one possibly for ascending and one for descending traffi*c.*

[492] This corresponds with the gauges of Roman carts, which measured most commonly between 1.40-1.80 m in width (see a.o. Kaiser 2011, 56-58, 162-163). The persistent claim that Julius Caesar (100-44 BC) would have standardised cart gauges to a width of 5 Roman feet (*c.* 1.48 m) does meets with no response in the archaeological record, where a variety of cart ruts have been attested throughout the Empire.

However, we should allow for the possibility that the slag washed up in the lowest parts of the valley through colluvial processes.

10. Geophysical as well as field survey suggests the presence of metal workshops at this location (see § 6.3.5). This site might be the origin of a part of the slag that is used throughout the area in road construction. The presence of the road into the Eastern Suburbium is sometimes suggested by the large quantities of ceramic and metal slag encountered alongside stretches of the road. This is specifically the case for the valley floor of the Elmalı Pınar catchment area, for the stretch of road running along the east side of the ridge east of the Eastern Suburbium and for the stretch of road through the Central Depression. Slag is used throughout ancient, medieval and modern times in road construction in order to provide good strength to the road surfaces, by mixing it with other paving materials.
11. Parallel to the road, at a distance of 120 m to the east, lies a flat rocky promontory on which in Roman Imperial times the Gökpınar *villa* would be erected. The most likely transport route for the products of the farm, when destined for the city of Sagalassos, was through the Elmalı Pınar area and Eastern Suburbium. Even though this would mean climbing 110 m in order to descend again towards the city centre. As can be seen on **Fig. 6.1**, the steep and rocky hillsides south of the city impeded any alternative, more convenient route into the city by cart and probably even by pack animal.
12. Well-preserved section of the road, still visible and identified as an ancient quarry road (see § 5.3.1).

A date for the layout of this access route could not be assessed directly. The above-mentioned secondary indications in themselves do not date the road, but these features could only have developed along an existing road, which is why they offer a reliable *terminus ante quem* for its layout. The strongest indication might come from the two *osteothekos* lids that were encountered near the presumed road in Elmalı Pınar (see § 5.4.3). The presence of a *necropolis* at this location would only make sense in the case of the immediate proximity of an access road to the city. Rectangular *osteothekoi* are most likely to occur before Roman times in Sagalassos[493] and thus the road as well most probably dates back to Hellenistic times. The road was a prerequisite for the large-scale development of a pottery production centre in the Eastern Suburbium that was depending on clay beds in the Çanaklı valley 8 km to the south (see § 6.3.1). The Hellenistic potters' quarter near the Odeion was already using Çanaklı clays and it is not unlikely that the clays were brought in via the route through Gökpınar and Elmalı Pınar, even though that would mean climbing to a point *c.* 60 m above the final destination (the entrance of the Central Depression) before descending through the gorge south of the Eastern Suburbium. An alternative and shorter, but steeper, path was probably in use for pedestrians and pack animals (dotted line on **Fig. 6.2**). This route has an average slope of 17.5 %, making it too steep for efficient cart traffic, while large sections of the road are too narrow for wheeled transport. The rugged terrain does not provide for any shorter access route without including rock climbing. We should, obviously, allow for post-occupational geomorphological changes in the landscape affecting sections of road that are no longer visible or accessible.

[493] Köse 2005a, 46-73, 151, 163-164.

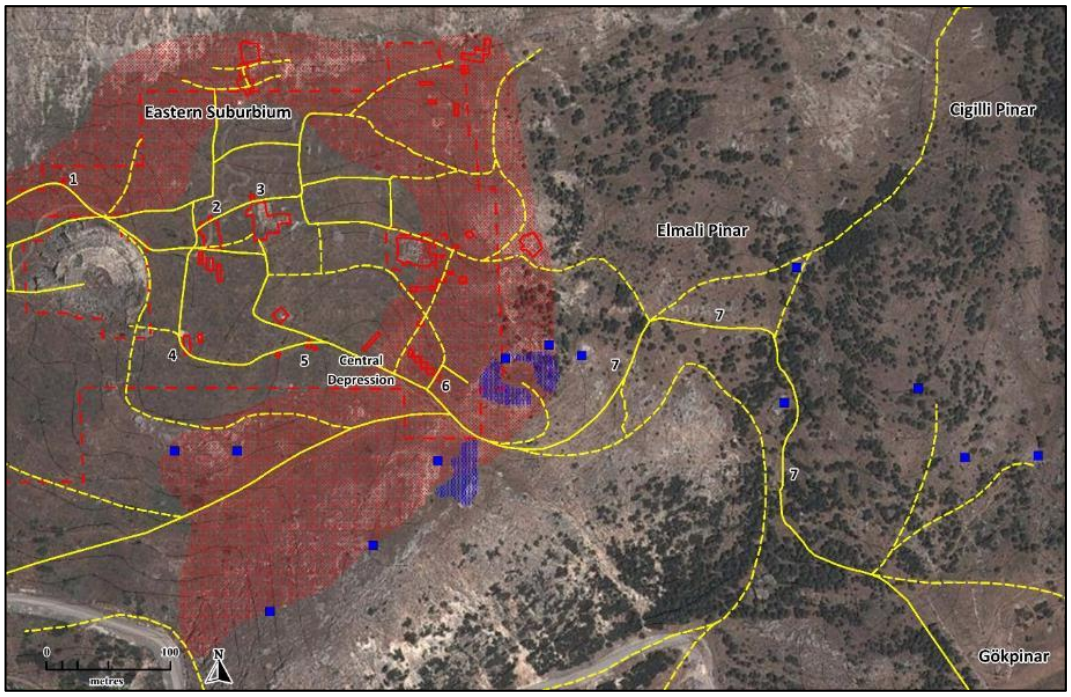


Fig. 6.2. The reconstructed road network towards and within the Eastern Suburbium. Also indicated are the known stone quarries (blue) and the Eastern Necropolis (shaded red). The continuous yellow lines are roads confirmed by field surveys, geophysical survey (dashed red lines) and/or excavations/soundings (full red lines). The dashed yellow lines are roads presumed on basis of (topographical) observations and logical deductions. The roads that are mentioned in the text are indicated: a test trench on the street leading into the Eastern Suburbium from the city centre (1); two trenches were excavated to study sections of a central street, respectively north of the PQ 2 site (2) and north of the coroplast workshops (3); a sounding on the road south of the site G complex (4); one of the 1997 soundings on the main road (?) through the Central Depression (5); a trench of PQ 3 on a bystreet of the main thoroughfare coming in from the east (6); and the route leading in from the east through the Gökpınar and Elmalı Pınar areas (7).

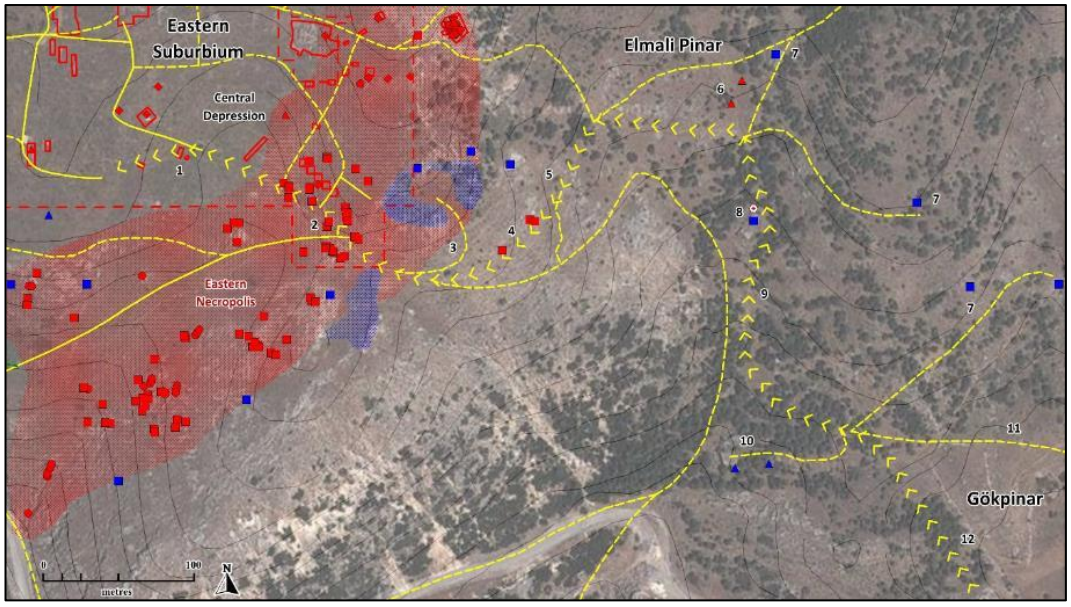


Fig. 6.3. Reconstruction of the road through Gökpınar and Elmalı Pınar leading into the Eastern Suburbium from the valley to the south. The main, drivable road itself is indicated with arrows. The artisanal activities along the road are indicated in blue (squares: limestone quarries; triangles: (presumed) metal workshops) and the funerary presence in red (a.o. squares: *sarcophagi*; triangles: *osteothekoi*). The numbers indicate the different sections of the road mentioned in the text below. The actual road surface could only be observed along some stretches of the road (nos. 1, 5 and 12), while the others (nos. 2-3 and 6-11) are indirect indications for the presence of the road.

Fig. 6.4. View on the western profile of one of the 1997 test trenches in the southwestern corner of the Central Depression of the Eastern Suburbium. The purpose of the gravel-loam ochre coloured layer was not identified during the excavations, but its similarities with the street sounding performed north of the coroplast workshops (Fig. 6.2, no. 3; Fig. 6.11) justify an identification as a street. Indeed, based on the geophysical survey, the main street crossing the Central Depression climbs to the plateau above via the slope with the least gradient, which is exactly at this spot. The heavy stone that was removed from the trench seems to have lined the road; the geophysical results suggest that the road through the Central Depression was propped up by walls on both sided, probably in order to support the road through or even lift the road from the seasonally marshy environs in the depression.

Fig. 6.5. Remains of a *sarcophagus* coffin (central) and lid (foreground) beyond the eastern ridge of the Eastern Suburbium. The *sarcophagus* coffin is still standing *in situ* on its original platform. It carries a central inscription panel on one of the long sides, which must have been pointed towards passers-by. The original road probably ran in between the location of the coffin and the current location of its lid.

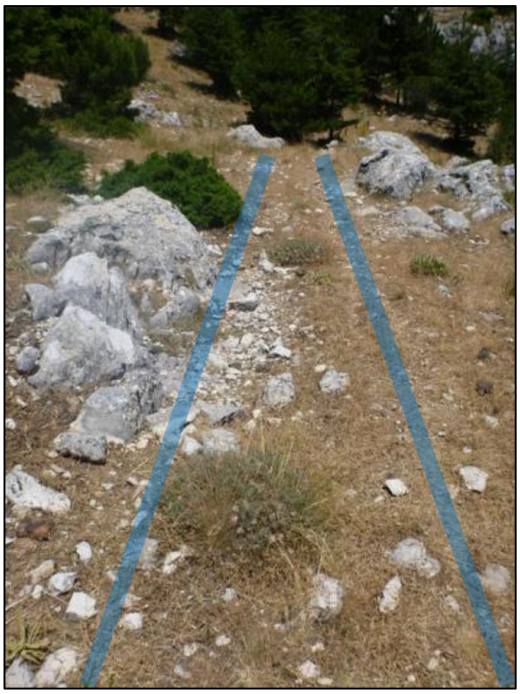


Fig. 6.6. Sections of the road leading into the Eastern Suburbium from the east. At these points the road had to pass some rocky outcrops and adjustments were made to the rock in order to make wheeled traffic possible. The blue lines imitate tracks of a cart with an average wheelbase (*c.* 1.50 m).

Fig. 6.7. 'Hollow road' through Elmalı Pınar? It is not certain if this used to be the original road or if that was reserved for an equally passable stretch of land more to the west. This part of the route might have been inoperable after/during heavy rainfall (collecting runoff water as a seasonal stream) and thus the parallel, slightly steeper route might have been the alternative.

Fig. 6.8. This vertical rock face was originally quarried (discussed in § 5.3.1), but the subdivision of its façade into votive panels heralded a new period of use. The rock face was pointed south – towards the incoming travellers along the presumed road leading through Elmalı Pınar – and thus served as an ideal 'billboard' for inscriptions and reliefs.

Street network within the Eastern Suburbium

There must have been a preceding set of roads and paths in the Eastern Suburbium[494], Elmalı Pınar and Gökpınar areas from Classical-Hellenistic times onwards – which would have interconnected the different activities attested within them – but indications concerning their plan and layout are mainly limited to topographical realities. It is likely that most of these early roads were mere beaten earth tracks, which would obviously leave few traces in the archaeological record.

As mentioned in § 5.3.1, some quarries within the area under study were already in operation from Late Hellenistic times onwards. The suggested courses of the Hellenistic-Roman quarry roads are based on the principle of least resistance, on the geophysical survey results and test trenches (**Figs. 6.1**-**6.2**). Most of the attested architectural features in the area, *i.c.* the terrace walls, were not depending on the import of quarried stones, since they were erected with unworked field stones that could have been collected locally (see § 5.2). Indeed, most of the superficial geological stratigraphy of the area is built up by screes from the northern mountain slopes (layers of old and modern colluvial material[495]). Through terracing, incidentally, large parts of the steeper slopes of the Eastern Suburbium were made more accessible, since the terraces themselves formed more or less level and easily negotiable tracts of land. On the other hand, the stones for the Hellenistic ashlar monument at site F – a structure unlikely to be a unique feature – would have needed to be hauled uphill from one of the quarries.[496]

Overall, the need for import and export of building materials would be rather limited in comparison to later times, but the apparently predominant Hellenistic burial custom of cremation (see § 5.4.1) would imply a rather steady supply of wood for the funeral pyres. Likewise, the clay that was likely quarried in the Central Depression needed to be transported into the Hellenistic potters' quarter, located near the later Odeion in the centre of the city (see § 5.3.2). The road through the gorge south of the Eastern Suburbium might have been used for this purpose (**Fig. 6.1**).[497] Furthermore, plotting the terrace grounds into plots for burial and/or agricultural purposes would come with a certain circulation pattern allowing the access to the individual plots. It may thus be clear that the Eastern Suburbium must have been veined with a network of roads and tracks as early as Hellenistic times, but there is no (remaining) evidence for paved streets from these early times.

At the very end of the Hellenistic period and during subsequent Augustan times significant changes can be noticed to all aspects of Sagalassos' city life. This was especially true for the area east of its walls, where a new city quarter was constructed in response to a growing population. Within this new Eastern Residential Quarter[498] (**Fig. 6.9**) there are indeed several indications for a Late Hellenistic origin of this extramural zone, which probably saw completion in Augustan times: several Hellenistic ashlar walls[499], the Late Hellenistic fountain house[500] (dated *c.* 50-25 BC), and the oldest occupational layers of the site Library East[501] (dated around the start of our era). This expansion of the urban fabric in eastern direction had an important consequence for the Eastern Suburbium itself, which meant that any development within the Eastern Suburbium would become incorporated

[494] Note that the term 'Eastern Suburbium' is used here as the conventional denomination of the region under study and that the characteristics of this region in Classical/Hellenistic times would probably not allow for an identification as an actual *suburbium* in the sense explained in Ch. 1.

[495] Similox-Tohon *et al.* 2004, 9-13.

[496] There are no (known) quarries upslope from this monument, which implies that the ashlars were most likely imported from one of the nearby quarries to the south or southeast of the structure.

[497] Clay quarrying in the Central Depression in Hellenistic times can be considered as an endeavour on a relative small scale in comparison with the later import from clays from the Çanaklı valley from Early Roman Imperial times onwards, both in terms of quantity and logistics.

[498] The Eastern Residential Quarter would receive a more regular layout than the Western Residential Quarter and the area would become the favourite residential district for wealthy citizens in Roman Imperial times (Martens 2008a; Waelkens & Poblome 2011, 53).

[499] One of these walls was exposed during the excavations north of the Library (Waelkens & Poblome (eds.) 1995, 54). Other walls in *opus quadratum* and *opus polygonale* were encountered during the Theatre Street West test trenches (TSW 1-7) led by Femke Martens in the Eastern Residential Quarter between 2005 and 2008 (TSW internal excavation reports).

[500] Waelkens 2009, 137; Waelkens & Poblome 2011, 53-54.

[501] Poblome *et al.* accepted; LE 2011-2015 internal excavation reports by Hendrik Uleners.

within the *continentia aedificia* (see § 1.1 and § 3.2.3) of the city fabric and from which point onwards it would be appropriate to call our study area a '*proasteion*' in the sense explained in Part 1 of this dissertation. It is difficult to establish whether this formative change would also have left a normative impact on the views of the inhabitants towards the Eastern Suburbium. Even though the *proasteion* was no longer cut off from the rest of the urban fabric, its topographical location still effectively isolated the quarter from the adjacent residential area and there was no detectable overspill of the Eastern Necropolis into the new residential zone (**Fig. 6.9**).

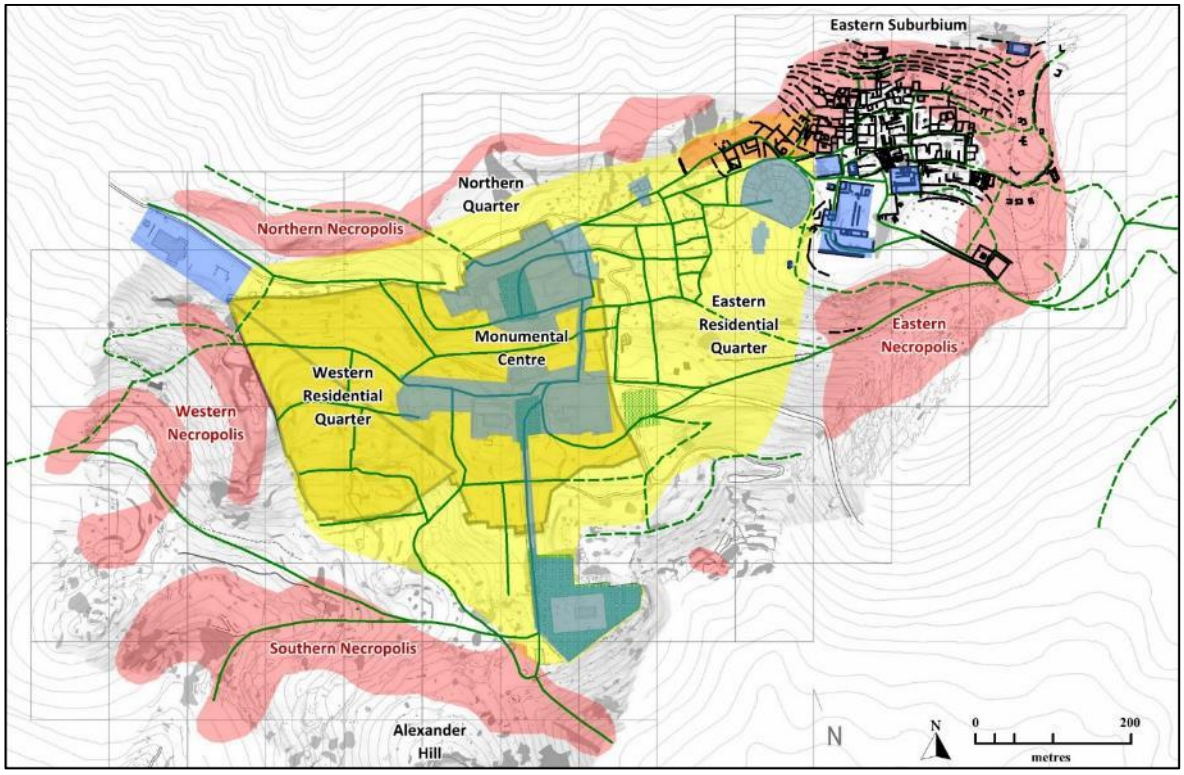


Fig. 6.9. Map showing the presumed extent of the Hellenistic city centre (within the city walls, in orange), the Late Hellenistic – Early Roman Imperial extension of the urban fabric (in yellow) and its relation with the public and semi-public monumental architecture (in blue), the surrounding *necropoleis* (in red), the street network (in green) and the walls of structures and terraces in the Eastern Suburbium (in black). The eastern extension of the city fabric connected the Eastern Suburbium with the rest of the built-up urban area, as can be seen from the overlap with the Eastern Necropolis. Moreover, the Theatre does not appear to be an isolated public spectacle building east of the city, but rather a part of a zone containing several (semi-)public buildings.

There are indications throughout these quarters that the changes and innovations of Early Roman Imperial times had a lasting influence on their internal arrangement. The enduring layout of the Eastern Residential Quarter and Suburbium would be largely shaped in this period. For example, all of the sites of extensive excavation in the Eastern Suburbium produced Early Roman Imperial structural remains, in most cases in places where no earlier traces of human interventions have been encountered. While this does not exclude possible earlier human presence at these sites (see Ch. 5), it does show how Early Roman Imperial interventions would either annihilate or obscure earlier traces and simultaneously create a framework of structures and (by)streets that would outlast earlier and many later interventions. This framework would of course partially be indebted to the already existing subdivision of the quarter into terraces (see § 5.2), especially in the steeper parts; the alignment of these terraces was largely imposed by the topographical imperatives and subsequently the road network would to a large extent be defined by the already existing terraces. Space for manoeuvring was thus limited, but both the individual terraces and the more level terrain appear to have been regarded as a blank sheet when the quarter's artisanal activities would really take off. Indeed, it appears that the artisanal boom rather than funerary activities would shape the layout of the quarter. This is most obvious in parts of the Eastern Suburbium (*e.g.* the northeastern quarter and at the site of the *naiskos* tomb), where artisanal activities (kilns attested by the geophysical survey)

clearly overlap with burial monuments (attested during field survey). The fact that the funerary remains – in many cases ashlar constructions – are at least partially preserved prove that some of the artisanal features at those locations were erased to make way for funerary constructions (see also § 7.4 and § 8.4). Contradicting examples (*e.g.* funerary remains or public architecture making way for artisanal activities) have also been observed within the *proasteion* (see Ch. 10), representing the intricate complexities in shifting landownership and the competition for space.

The main west-east thoroughfares of the Eastern Suburbium would roughly follow the contour lines and thus the existing terraces, in an attempt to maximize the accessibility for wheeled traffic.[502] The average gradient of the main road leading into the Eastern Suburbium from the east (**Fig. 6.3**) does not exceed 13.3 %. The same applies for the roads crossing the quarter itself from east to west. In contrast, the road leading up from the city centre towards the Eastern Suburbium consists of a stretch of 165 m between the Library and the Theater's *cavea* with an average slope of 18 %, including some steeper sections.[503] Wheeled transport between the city centre and the Eastern Suburbium, if not altogether impossible, would have its restrictions on the weight of the cargo, both uphill and downhill.[504] The eastern access road into the quarter is the most likely route for transport of goods on a larger scale into the Eastern Suburbium and by extension also into the city centre. Above we discussed an alternative route from the valley into the city centre, which was possibly accessible for wheeled traffic and which led through the Gürleyik Pınar area via a wider detour around the Alexander Hill (**Fig. 6.1**). However, thus far there are no strong indications for the presence of a main road along this route.

Streets perpendicular to the general east-west axis would have to be at least partially stepped in order to meet the slope and would have included staircases to climb subsequent terraces. They might also have played their role in the evacuation of rain and waste water (see also § 7.2.2).[505] **Fig. 6.2** provides us with an overview of the locations where sections of the Eastern Suburbium street network has been encountered during surveys, in test trenches or in extensive excavations.

Between 1998 and 2008 Femke Martens conducted a series of thirteen test soundings[506] to study the city's street system within the framework of her doctoral dissertation[507] and postdoctoral research[508]. None of these were located within the Eastern Suburbium, but six soundings were executed in the Eastern Residential Area, among which one on the street immediately leading into the Eastern Suburbium from the city centre (**Fig. 6.2**, no. 1), north of the Theatre (trench TSN, excavated in 1999, **Fig. 6.10**). Not all the eleven soundings produced full road profiles, but clearly none of the exposed streets met the description of an ideal street layout, as proposed by the Roman civil engineer and architect Marco Vitruvius Pollo (*c.* 80/70-15 BC), in which he puts forward a sequence of four separate strata: the *statumen*, *rudus*, *nucleus* and *pavimentum* or *summum dorsum.*[509] Very few streets in the ancient world actually do follow this 'ideal' concept[510]; street builders indeed had to come up with solutions for specific local conditions based on the availability of local materials, which was also the case in Sagalassos. The local topography, the outcropping bedrock, and the availability of resources would lead to individual solutions for particular problems. Remains of the *summum dorsum* (pavement of stone slabs) were

[502] Martens 2007, 340.

[503] Slopes with a gradient of 15 % and more are considered as not suitable for wheeled traffic in ancient towns, while gradients of 7 % and below are considered comfortable for carts. For the city centre this means that wheeled traffic must have been extremely limited, since nearly all streets included steps, stairs and/or stretches that would have been too steep. A lot of the transportation of heavier goods must have been done by pack animals within the city centre itself (Martens 2007, 340-341; 2008a, 196).

[504] An observation that still holds true for current day means of transport on the site.

[505] Martens 2007, 340-341; 2008a, 195-196.

[506] These trenches are respectively SSC 1 (South Street Crossing), SS 1 (South Street), NS 1-2 (North Street), WS 1 (West Street), TSN (Theatre Street North), TSW 1-7 (Theatre Street West).

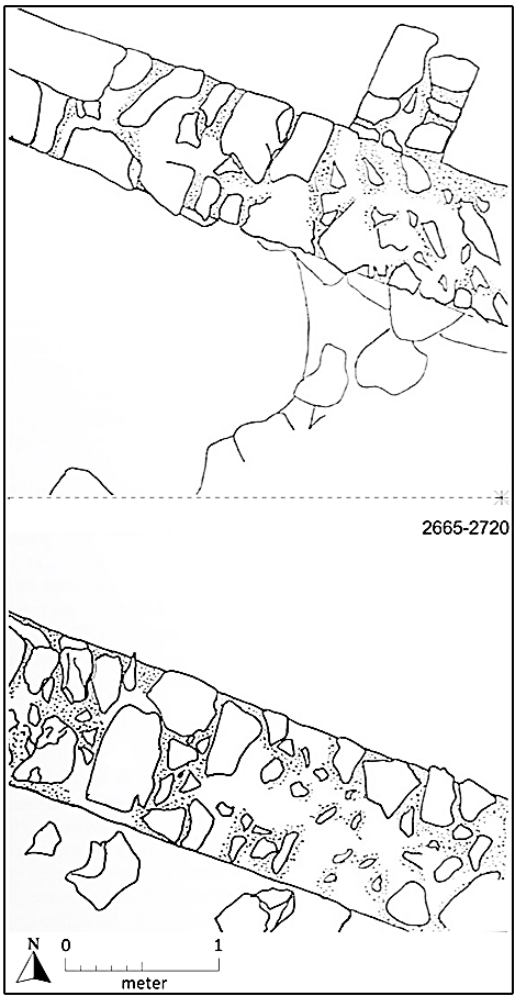
[507] Martens 2004.

[508] See a.o. Martens *et al.* 2008.

[509] Vitruvius *De Architectura*, 5.9.7.

[510] Forbes 1965, 152; Chevalier 1997, 108-109.

only rarely encountered in the Eastern Residential Quarter's test trenches, but the presence of the underlying substratum indicated that in most cases the original paving was removed at later stages.[511]



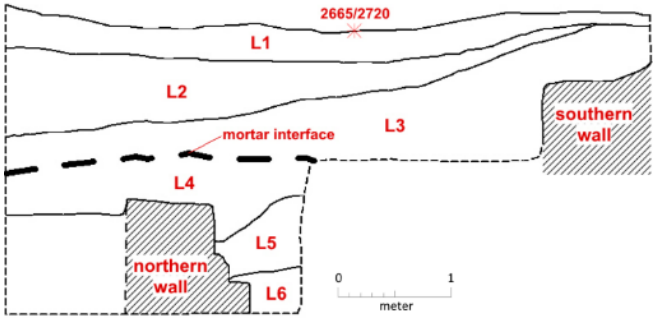


Fig. 6.10 a/b. Drawings of the test trench Theatre Street North (TSN), excavated in 1999: ground plan (left) and eastern profile (above). The trench was intended to cut the street leading into the Eastern Suburbium from the city centre. The orientation and location of the trench indeed concurs with the street that is suggested by the geophysical survey and the space in between both walls – measuring *c.* 2.80 m in width – is in accordance with the average width of streets in the quarter. The lowest excavated layer consists of the same sandy yellow soil that was recognised in other sections of the suburban streets (see Fig. 6.4 and Fig. 6.11). On the other hand, the many finds in the lowest encountered layer are not to be expected in the context of a street, which led the original excavators to conclude that the area had a funerary function and that the street ran south of the southern wall. However, the finds assemblage also included Late Roman / early Byzantine sherds. The layers below, which might have been the original street strata, were not excavated due to time constraints. We would suggest that the northern wall should be regarded as the *temenos* wall surrounding the tomb to the north (in contrast to the excavation report this is not a terrace wall); a parallel wall can be recognised at the surface north of the tomb remains. Adapted from original drawings by Femke Martens.

In 2011, a 2.5 m long section of a suburban street was excavated and studied (**Fig. 6.2**, no. 3; **Fig. 6.11**). Its location, immediately north of the so-called coroplast workshops, was already known from the results of the geological survey and by its proximity to and relation with these workshops. The street could be reconstructed to be minimum 2.90-3.10 m wide, oriented along the main east-west axis of the quarter and following the upper edge of a terrace wall, which simultaneously served as the north wall of a series of Roman pottery workshops immediately south of it.[512] The original road surface appears to have been of the *via glareata* type, more specifically a road with a gravel subsurface and paving on top. The best preserved stretch of the original paving was documented in the southern half of the road, close to the edge of the terrace wall.[513]

The road surface did not, as in the city centre, consist of limestone flagstones, instead a type of hard volcanic tufa slabs were used. The edge of the stones, bordering the terrace wall, show a clear, straight cut. Individual slabs are more difficult to distinguish because the decaying tuff is riddled with fissures. The slabs seem to have formed a slightly elliptical road surface, which would have been effective in draining rain and melting water

[511] Martens 2007, 338-341; 2008a, 194.

[512] The coroplast workshops only make their appearance in a Late Roman setting, but there is proof of earlier activities, not necessarily related to pottery production, at this location from Early Roman Imperial times onwards (see § 6.3.3).

[513] We consequently use the term 'terrace wall', since that was its original and primary function. However, keep in mind that a series of buildings had incorporated this already existing wall as a sturdy back wall into their construction, a practice that can also be witnessed at site F (see § 6.3.4) and PQ 1 (see § 6.3.1). The street that ran along the edge of the terrace wall would not have faced a drop; the roofs of the constructions south of the wall would have stood higher than the road (the road is located at less than man height above the floor level of the spaces to the south of the wall).

towards the street's banks. The stone's colour is off-white on the surface but with a clear grey break. This type of tuff, which is relatively resistant to weathering, can be found in the volcanic surroundings of Lake Gölçük, a crater lake situated on the other side of the mountain pass, as the crow flies 6 km northwest of Sagalassos.[514] There are hints for a possible cart track cut through the tuff, but the poor level of preservation of the stone made it impossible to confirm this claim. The use of tuff is not uncommon for street surfaces[515], especially since there are varieties that are relatively capable to withstand heavy traffic and harsh climate conditions. Tuff could also have been used as a bedding material, however, and it might be that there originally was a layer of (limestone) slabs on top which had been recuperated.

The original layout of the street is dated to the late 1st century AD or early 2nd century AD. It cannot be excluded that the paved street level had older predecessors. On the other hand there were certainly several phases in which the street surface was replaced and incremented throughout the subsequent centuries (see Ch. 7-9). However, none of these phases show indications for the use of stone slabs as a surface. All the later gravel roads seems to have been of the *via glareata* type without paving. In between the south bank of the street and the adjoining terrace wall there was a narrow ditch that must have served to evacuate rain and melting water. This ditch appears to have been filled intentionally with small limestone rubble, which might have been part of a system to prevent water from seeping through the terrace wall into the workshops below. The ditch was not excavated any further, but similar water runoff systems have been exposed in the city centre.[516] There was no similar ditch at the northern 'upslope' side of the road, which obviously would suffer less from water runoff.[517]

With a minimum width of *c.* 3 m this street is sufficiently broad for the passage of two carts, and the finishing of its surface, either with an actual pavement or with a sturdy gravel surface, shows the care that was attributed to a street in what was in essence an artisanal-funerary suburb. The geophysical survey suggests that this minimum width was met throughout the more level parts of the Eastern Suburbium (the broadness of the streets can be approximately measured along sections that are bordered by walls on both sides). This might be considered as an indication for the accessibility of (parts of) this *proasteion* for wheeled transport. If there would not have been any use for carts, the road network could have been less elaborately laid out. This does not automatically imply that the Eastern Suburbium was accessible from the outside by carts as well; the wheeled traffic might have been limited to the quarter. But the latter assumption seems unlikely when considering that the added value for internal cart transport is very limited in comparison to transport of bulk (clay, stone, wood, products, *etc.*) to and from the quarter. The accessibility of the street network within the quarter should rather be considered as a side effect of the above exposed hypothesis that the quarter in itself was accessible by cart, at least from the Ağlasun valley below.

A small section of the same street was also excavated in 2011, 40 m southwest of the former section and north of the PQ 2 site (**Fig. 6.2**, no. 2). The road descends here and bends to the southwest, where it connects into the major thoroughfare between the city, the *proasteion*, Elmalı Pınar and the valley below. The road is no longer bordered by a terrace wall and the other features of the street were poorly preserved due to erosion, making it difficult to distinguish the actual road from the surrounding layers.[518]

[514] Paulissen *et al.* 1993, 231.
[515] Forbes 1965, 153.
[516] For example during the UASE 2015 excavation (internal excavation report by Hasan Uzunoğlu and Johan Claeys).
[517] Claeys & Poblome 2012b.
[518] Claeys & Poblome 2012b, 141.

Fig. 6.11. View on the eastern profile of the street running north of the coroplast workshops. The remaining fragments of the decayed volcanic tufa slabs from the original road surface are recognisable left and right of the water channel. The profile indicates that this water pipe belongs to a final road phase; the pipe's trench cuts through several subsequent road surfaces, which can be distinguished in the profile as ochre coloured clayey gravel. The water pipe was propped by small rubble and the trench backfilled with a darker, sandy loam. The road surface that must have covered this final phase is completely weathered and no longer recognisable in the profile. The ditch bordering the street is visible on the right as a darker stretch of soil riddled with small limestone rubble.

In 2012 another (by)street was documented at site PQ 3 in the southwest of the Eastern Suburbium (**Figs. 6.2** no. 6 / **6.12**).[519] The edges of the street were formed by the enclosure walls of two large burial plots (see § 7.4.3), leaving a gap of *c.* 2.60 m wide for a road to pass in between (compare with the estimated 3 m wide 'main' thoroughfare described above). Parallel to the southeastern side of the road ran two water channels: one consisting of segmented terracotta water pipes and one constructed of mortared limestone rubble and bricks. These were probably originally located beneath the road surface, but since they were found immediately below the topsoil it can be assumed that the accompanying road surface(s) eroded away. This also suggests that the road was either never paved or that the slabs had been retrieved. The width of this road and the fact that it clearly stood out on the geophysical survey, suggest that it was a well-planned street and not a mere path. The width of the street is probably not sufficient to allow the passage of two carts in opposite directions, but its location (a side street running into a steep slope) suggests that this was never the intention in any case. Tentative dates associated with the water channels suggest that the road must have existed at least from the first half of the 1st century AD[520] and that it was refurbished in the first half of the 2nd century AD, assuming of course that digging a new channel would essentially require reconstructing the road surface.[521]

[519] Murphy 2012, 44-46.

[520] Finds from within this covered water channel suggest that the channel already went out of use in the first half of the 1st century AD.

[521] Murphy 2012, 44-46.

Fig. 6.12 a/b. Left: aerial view of the street partially exposed in the southernmost two trenches of site PQ 3, excavated in 2012. The road is bordered on both sides by the mortared rubble *temenos* walls (highlighted in blue) of the adjacent burial plots (the loose grey stones on top of the western wall probably result from a post-occupational stone clearing).

Above: parallel and close to the western *temenos* wall are two water channels, one constructed of mortared limestone rubble-and-brick and one consisting of terracotta pipes, which originally must have been located underneath the eroded street surface.

The other sections of street that could be studied during archaeological excavations or surveys (**Fig. 6.2**, nos. 4, 5 and 7) have been discussed above, in the description of the main street leading into the Eastern Suburbium from the southeast.

In conclusion, when considering an orthogonal street layout as one of the possible defining characteristics of *urbanitas*[522] (see also § 1.2), then the winding Eastern Suburbium roads and alleys can be easily discriminated from the more regular layout of Sagalassos' city centre. And even though considerable effort has been put into the layout of the street network within the Eastern Suburbium, also the finishing of the street surface (paved with gravel/tuff versus paved with limestone flagstones) could be considered as an additional criterion to distinguish between the 'urban' and 'beyond'. It is possible that not all the streets within the Eastern Suburbium and even within the city centre were paved with limestone, but that was certainly the case for the major thoroughfares (north-south Colonnaded Street[523], east-west Colonnaded Street[524], the Upper and Lower Agora, the street south of the Library, North East Gate[525], *etc.*), while the supposed main streets in the Eastern Suburbium (the road leading in from the southeast and the main east-west axis connecting with the street into the city centre) were most probably never paved with limestone slabs. The street width is a less straightforward criterion, since major streets in the city centre (*e.g.* the east-west Collonaded Street) could measure less than 3 m in width. It appears that within the Eastern Suburbium the use of pavement was restricted to certain roads (only the main thoroughfare?) and its upkeep limited in time. And the width of the streets in the city centre (mostly between 5 and 6.70 m) is significantly different from the secondary streets in the Eastern Residential

[522] Goodman 2007, 11, 189.

[523] A large section of the north-west Colonnaded Street has been excavated under the supervision of Femke Martens (campaign 2005) and Ine Jacobs (campaigns 2006-2008) and has been concisely and preliminarily published in the *Kazı Sonuçları Toplantısı* XXVIII, vol. 2, 330-331; XXX, vol. 3, 429-431; XXXI, 265-267 (only in Turkish).

[524] This street has only been studied in one of the trenches dug under supervision of Femke Martens (WS1). Martens 2008a, Fig. 3 shows the plan view of the trench.

[525] The site Northeast Gate (NEG) was excavated under the supervision of Peter Talloen during the campaigns 2002-2004 and has been preliminarily published in the *Kazı Sonuçları Toplantısı*

Quarter (between 2 and 4 m) and from the suburban and Gökpınar roads and alleys (between 1.80 and 2.90 m).[526]

6.2.2 Water infrastructure

The water infrastructure is inextricably linked with the road network of Sagalassos. Femke Martens studied both aspects of the city as the topic for her doctoral dissertation[527] and her postdoctoral research[528]. There are no indications that Sagalassos needed an elaborate water distribution network before Early Roman Imperial times. The multitude of permanent brooks and springs in the surroundings was and still is one of the defining natural resources of the area. The yield of these could have been complemented by collecting water from rain and melting snow in reservoirs and/or cisterns[529], which might have been sufficient for a city still devoid of lavish monumental *nymphaea*[530], baths, *etc.* However, no large wells and only a few public cisterns[531] – most of which could be dated to late occupational phases of the city – have been encountered during the field surveys and excavations. This should not simply be explained by the limited extension of the current excavations, since also the geophysical surveys provided no strong additional indications for the presence of large cisterns. It should rather be seen as a sign that the permanent natural water flow provided by the local springs was to some extent sufficient for the vital applications throughout the history of the site.[532]

Augustan times would bring the arrival of monumental aqueducts to Asia Minor. The promise of a lasting peace also brought with it the opportunities for long-term investments. Beforehand it would have been unwise for a city to depend on external water sources for its (drinking) water supply, since it would have given enemy forces the opportunity to effectively cut off a city from one of its most vital resources.[533] The known aqueducts that lead into Sagalassos have as yet not been conclusively dated; dates are mainly deduced from the construction dates of buildings within the city centre that consumed water on a large scale and in a single case from a sherd stuck into the channel's mortared wall (see § 7.2.2). Even though there was an Early Roman Imperial predecessor to the main bath building in Sagalassos and possibly also to some of the *nymphaea* on the *agorai*, the 2nd century AD consummation of water would reach a more extravagant level.[534]

Not only for the supply of water, but also for the drainage of superfluous rainwater, runoff and waste water an extensive infrastructure was needed in the form of drains (for excessive water) and sewers (for waste water). More and more parts of the city centre (buildings and paved streets/squares) prevented water from infiltrating the soil. As a consequence it was necessary to create a drainage system for the city centre. Also many private

[526] Martens 2007, 338-340; 2008a, 196.
[527] Martens 2004.
[528] See a.o. Martens *et al.* 2008.
[529] A distinction should be made between 'reservoirs' and 'cisterns', with the latter having the specific intention to store rainwater, *e.g.* for drinking, in cool conditions (in many cases subterranean), while 'reservoirs' can include any type of collector that store water at the end of a water supply line (Tölle-Kastenbein 1990, 108, 121).
[530] There is one fountain house that dates to Hellenistic times (the Hellenistic or Doric Fountain House, south of the Library), but its purpose was to capture and make available the outflow of a local aquifer and not to display water in a lavish way.
[531] A possible Late Roman or early Byzantine cistern has been identified during the excavations at the Lower Agora (LA 2003 and 2004 internal excavation reports by Bernard Van Daele and Kerim Altuğ). East of the Northwest Heroon on the Upper Agora a 6th century AD double fountain is connected to a rock-cut cistern (Martens 2008b, 255-256). A middle Byzantine cistern, with a volume of 27 m³, was excavated at the top of the Alexander's Hill (AH 2003 internal excavation report by Peter Talloen). [531] In the excavation trenches of Library East (excavations 2012-2013) several large mortared architectural fragments have been encountered that collapsed from a construction higher upslope (LE 2012 and 2013 internal excavation reports by Hendrik Uleners). Their structural characteristics and the use of waterproof mortar seem to suggest that they might originate from a cistern or from a *castellum aquae* / *castellum divisorium*. This feature might be related to the upper Eastern Aqueduct (see § 7.2.2). Also at the North East Gate site an early Byzantine cistern was encountered at the lowest terrace (NEG 2001 internal excavation report by Peter Talloen and Yaprak Özkönü).
[532] Martens 2001, 56 Footnote 39; 2006, 167.
[533] A viable city should be able to count on its own (re)sources in the event a war debars a city off from its territory, as Aristotle stresses in his account on politics (Aristotle *Politika*, 7.1330b or 7.11).
[534] Martens 2001, 56 Footnote 39; 2006, 167-168.

buildings might have been connected to the public drainage and sewage system from Imperial times onwards.[535] In Early Roman Imperial times this might not have been a priority for the Eastern Suburbium (yet); none of the many encountered water channels can be dated to Augustan-Flavian times. But throughout the next centuries a dense network of water pipes both supplying and draining the quarter would be installed, stating the point that not only the monumental centre needed substantial water infrastructures (see § 7.2.2).

6.2.3 Upkeep of the terrace walls

The upkeep and repair of terrace walls must have been a continuous operation throughout the centuries. It seems unlikely that this was a centrally organised task. As we could establish at site F, at the east slope and coroplast workshops as well as at the church site PQ 5, these terrace walls were more often than not incorporated into artisanal and funerary constructions. Damage to the wall would have immediate repercussions for the structural integrity of these buildings and structures, which would make their upkeep a necessarily private responsibility. The situation may be different when the stability of a road depended on the maintenance of adjoining terrace walls. In that case more parties would be involved; potential damage could affect the entire street or quarter.

The terrace wall described in § 5.2 (**Figs. 5.11-5.12**), located in the southern trench of site F along the northern slopes of the *proasteion*, went through several phases of partial reconstruction. A first phase probably already took place in Hellenistic times, while the rearrangement of the area into workshops in Early Roman Imperial times seems to have been accompanied by an additional phase of repair at the end of the 1st century AD. And there appears to have been at least one more phase of restoration after the second quarter of the 2nd century AD. Around that time the artisanal space created by perpendicular walls south of the terrace wall was abandoned, creating a *terminus post quem* for the last phase of repair of the terrace wall.

[535] Too little is known about residential architecture to confirm this statement (Martens 2006, 168).

6.3 Artisanal activities

6.3.1 Development of the potters' quarter: a large-scale ceramic production centre

As mentioned above (see § 5.3.2) clays from the Central Depression of the Eastern Suburbium were quarried and used for the making of a local type of pottery in Hellenistic times. The location of the contemporary Hellenistic potters' quarter – or at least a part of it – has been identified during the excavations of the *cavea* of the Odeion in the city centre and during subsequent geophysical survey of its surroundings.[536] Within the Eastern Suburbium itself, no traces of pottery production during Hellenistic times have been encountered. The indications for Early Roman Imperial pottery manufacture are more abundant and seem to indicate that the Eastern Suburbium in a rather short span of time became arranged for pottery production on a large scale. Excavations at three sites (site F, east slope workshops and possibly the coroplast workshops) have revealed remains of Early Roman Imperial pottery production infrastructure and the geophysical survey could pinpoint the location of dozens more kilns in the Eastern Suburbium (**Fig. 6.13**).

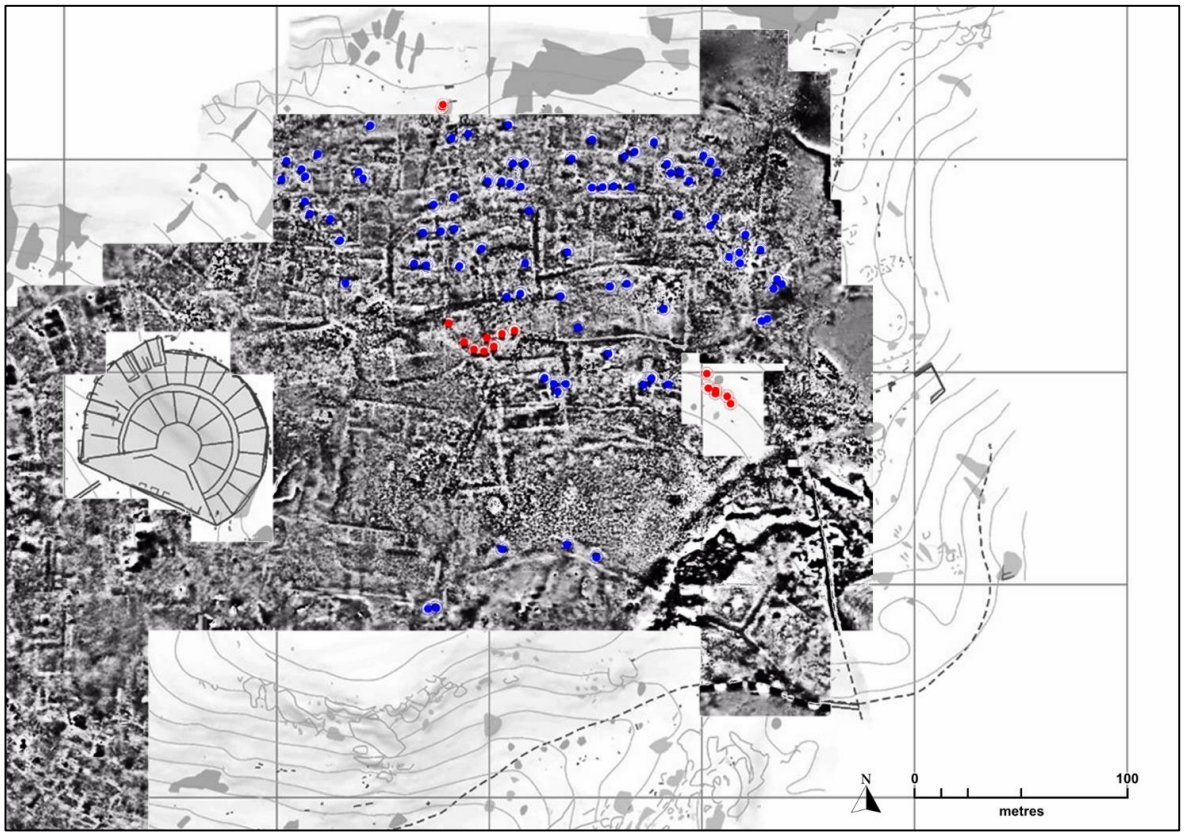


Fig. 6.13. Overview of the presumed pottery kilns, attested either by magnetometry during geophysical surveys (blue dots) and/or by excavations (red dots).

Research on the origin of the clay raw materials used for the fabric of Sagalassos Red Slip Ware (referred to as Fabric 1), which was likely the only type of pottery that was produced at a large scale in the *proasteion*, shows that these were quarried in the northwest part of the Çanaklı valley, as the crow flies 8-9 km[537] south of the city

[536] Poblome *et al.* 2013.

[537] Ottenburgs *et al.*, 1993; Degryse *et al.* 2003, 259 Fig. 3 and 278-279: several locations within the Çanaklı valley (and other locations within the territory) were sampled in order to compare the raw clays with the fabric of the pottery types recognised at Sagalassos and Düzen Tepe. The clay source that was exploited for the production of Sagalassos red slip ware was not the closest suitable clay bed; at the north of the Çanaklı valley clays with similar qualities (**Fig. 6.14**) could have been quarried as well. An important factor in the choice for a specific clay bed must also be sought in the socio-economic circumstances, such as the ownership of the land (see also Poblome in press b).

at an altitude of 1035 m asl. This meant that transporting the clays up to the Eastern Suburbium implied the ascent of a *c.* 560 m height difference between the source of the clays and the production site (the centre of the potters' quarter lies at *c.* 1595-1600 m asl). Quarrying, transporting and distributing these heavy goods (moist clay weighs *c.* 2 kg/dm³ or double the weight of water for the same volume) would require a well thought out strategy and a fine-tuned logistic system probably transcending the individual potter or workshop. Transport – as well as the pottery production itself – must have been mainly a seasonal or even occasional enterprise; the rest of the year was characterised by a much lower or no import of clays.[538] In § 6.2.1 we already suggested the road leading up through Gökpınar and Elmalı Pınar as the most likely route for heavy transport into the Eastern Suburbium. The use of pack animals instead of wheeled carts for the transport of bulk products (clay, wood, stone, *etc.*) remains an option. Since the investment in a cart might not always have been profitable in this landscape, a pack animal could at most times serve purpose. The use of animals for the transport of heavy loads would imply less stringent restrictions on road layout, road surface and slope. Nevertheless, all the characteristics of the road leading into the *proasteion* seem to indicate that the layout, surface and slope actually *had* been adapted to wheeled traffic. With this potential access route into the Eastern Suburbium for carts and regarding the scale of this operation, the most efficient way of transporting presumably prevailed.

The study of the characterising slip of the Sagalassos table wares revealed three main sources of raw material: the Central Depression in the Eastern Suburbium itself, the shores of Lake Burdur and an as yet unidentified source providing an illitic clay with undecomposed K-feldspar.[539] While the advantage in the proximity of the former source is obvious, the other two clays would have had to be transported into the *proasteion* in case these were used. When we take in account the threshold distances for clay sources proposed by Dean Arnold[540], the distance of the Çanaklı valley falls far beyond the 'preferred' catchment area (1 km radius from the production site) and still beyond the boundaries for secondary and tertiary choice locations, even without taking in account the uphill climb from the source location. This would have been all the more true for quarrying in the Burdur Lake area. However, the scale of these enterprises would have been relatively small in comparison to the import of clays for the actual fabric of the ceramics. Even when taking in account that a lot of clay is 'wasted' in preparing the slip (20 kg of ball clay yields roughly 7 litres of slip[541]), the thickness of a terra sigillata slip layer is only a fraction (between 1/10th and 1/200th) [542] of the total width of the ceramic vessel's wall. Thus the organisation of the transport of the clays for slip would not pose the same logistic challenges because of the relative small scale of the operation.

When regarding the organising elements behind the transport of clays also the ownership of the plots of land containing the exploited clay beds of the Çanaklı valley and other (secondary) clay quarries should be considered. Geo-archaeological fieldwork identified an area covering 62.5 ha within which clays were quarried in Antiquity.[543] The northwestern part of the Çanaklı valley is not the only part of the valley that provides clays suitable for ceramic production; proper clay beds in the extreme north of the valley were even positioned *c.* 3 km closer to the potters' quarter in the Eastern Suburbium. Moreover, also clays from the more nearby Ağlasun valley (2-3 km as the crow flies) and from the Central Depression itself were quarried, albeit mainly for slips and for the production of cooking and utilitarian vessels.[544] The clays from the northern edge of the Çanaklı valley, however, had the mineralogical and geochemical characteristics necessary for the production of high quality table wares (**Fig. 6.14**: N clay beds). If the (neoclassical) economic factor would have been decisive, the N clay beds would have been quarried. It thus appears that the choice for the specific NW clay beds was probably not only determined by environmental and cost factors and it is tempting to recognise a link between the potting

[538] Poblome in press b; Hellmann 2014, 160.
[539] Degryse *et al.* 2008, 258.
[540] Arnold 1988, 32-57.
[541] Based on the numbers mentioned in Sammarco & Sprague 2010.
[542] Most slip layers are between 50 and 200 µm thick (respectively 1/20th and 1/5th of a millimeter), while the wall thickness of most vessels is between 2 and 10 mm. Moreover, bottoms and other parts of the vessels are sometimes not slipped. Personal communication with Patrick Degryse.
[543] Poblome 2014.
[544] Neyt *et al.* 2012, 1304-1305.

stakeholders and the owners of this specific stretch of Çanaklı land.[545] Unfortunately, we lack the information to reconstruct the patterns of contemporary land tenure and/or ownership, and consequently all suggestions regarding private or civic ownership of clay quarries and possible links between stakeholders remain hypothetical. In the end, however, there must also have been a link between the (perceived) superior quality of the greenish grey clays procured from the Çanaklı valley and the production of the high-end type of table ware initiating a Hellenistic form repertoire into the region. These observations clearly show path dependency at play. Indeed, the Late Hellenistic – Early Roman Imperial Sagalassos Red Slip Ware was preceded by a black glazed ware (most likely dateable to the 4th-3rd centuries BC) that made use of the same Çanaklı clay source and that also constituted a high quality type of table ware.[546]

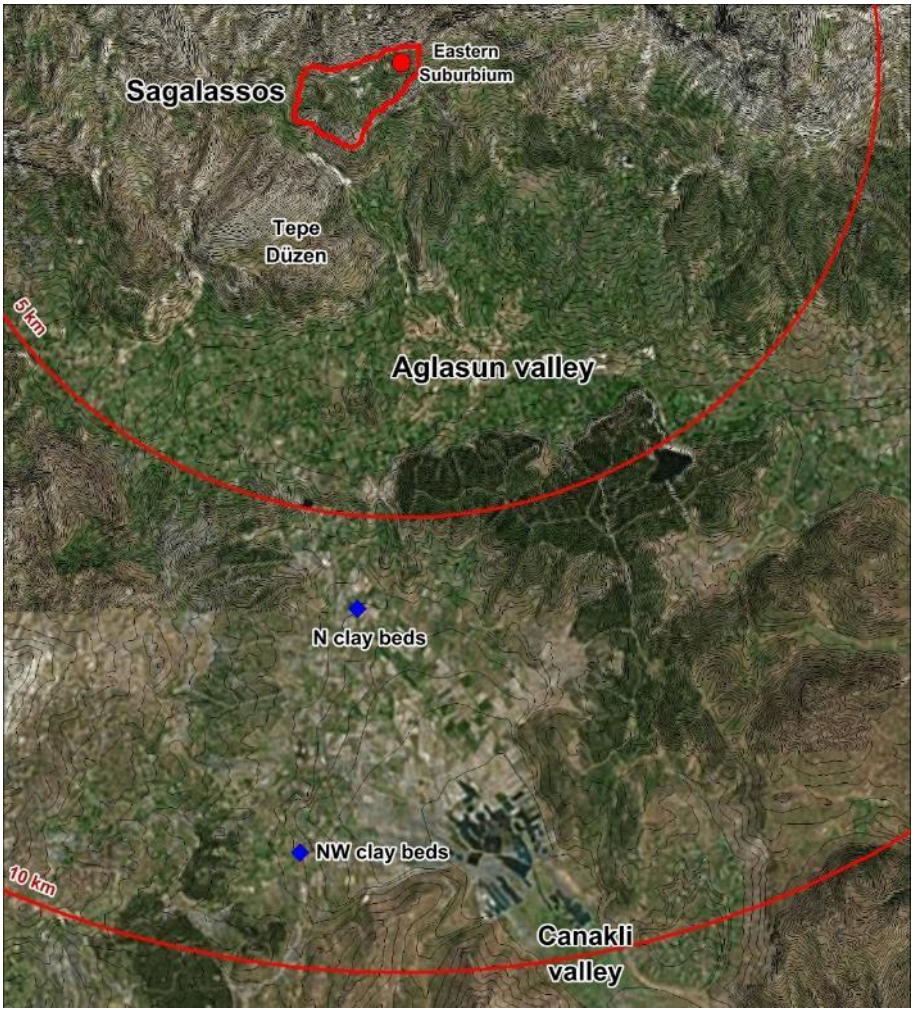


Fig. 6.14. The Çanaklı valley is located south of Ağlasun and Sagalassos (the red dot indicates the potters' quarter) and can be reached via a connecting corridor from the Ağlasun valley. The clay beds that were exploited for the production of Sagalassos reds slip ware (NW clay beds) are not the closest suitable clay sources; in the extreme north of the valley other clays (N clay beds) could have been quarried for the same purpose. The northern clay beds, however, appear to have never been exploited. Nowadays, clay beds in the central part of the valley are exploited for the production of bricks. These clays, however, are so rich in clay that it is necessary to add a grog of misfired bricks as a temper. Map based on Degryse *et al.* 2003, 259 Fig. 3.

The climate plays an important factor in the organisation of the clay transport as well, since potting, as much as any other professional activity, became impossible during the harsh winter months.[547] Large-scale transport of

[545] Degryse *et al.* 2003.
[546] Poblome 2014.
[547] Bodies of raw clay will be seriously affected by freeze-thaw cycles. When freezing, the water inside the clay will expand and after thawing the clay will appear fractured, not unlike layers of shale. This does not render the clay useless, however, since

clays might in fact have been organised on a seasonal or rather occasional, need-be basis, while the rest of the year would have seen very limited to no activities in clay quarrying and transportation. It is likely that the bulk of clay was brought into the potters' quarter in one haul at the start of the potting season, after which the clays could 'rest' and be treated before being used in the production process. The potter currently working at Çanaklı still works along these principles.[548] During the excavations of the east slope workshops a clay preparation area was excavated, containing settling pits and a presumed wedging floor (see further).

6.3.2 Roman Imperial east slope workshops at site PQ 1[549]

Early Roman Imperial phase

The excavations of site PQ 1, a site including the east slope workshops and the *naiskos* tomb, developed from an interdisciplinary research programme, including a series of 22 exploratory soundings and 23 drillings, executed in the southern half of the Eastern Suburbium between 1997-1999. Extensive excavations at one of these location, lodged between the immersion towards the Central Depression and the eastern slope of the quarter, were executed between 2000-2002 and 2012-2013. While the first phase of excavation was aimed towards the exploration of the remains of the Late Roman (see § 8.3.1) and Late Hellenistic – Early Roman Imperial workshops, the more recent campaigns focused on the *naiskos* tomb and its surrounding *temenos* (see § 7.4.2). The remains of the Roman Imperial workshop(s) were partially obliterated and/or obscured by the Late Roman workshop phase at the same location. Nevertheless, several features of the early workshop(s) could be documented, including a zone with clay pits, a clay preparation unit, a room with a mortared floor, the possible remains of a potters' wheel, three kilns and a dumping area (**Fig. 6.15**).

Fig. 6.15. Masterplan and aerial picture of site PQ 1 during the 2012 excavation campaign. This site includes the so-called east slope workshops in the west and the *naiskos* burial compound in the east. The Early Roman Imperial features are indicated in blue; the Middle Imperial features in green. See Attachment 4 for more detail.

The clay pits were located in the southern half of the trench and partially cut into the ophiolitic bedrock, the impermeable nature of which was intentionally used. Both the plans and sections of the pits are irregular. The

re-wedging the thawed clay will turn it plastic again. However, also leather hard and greenware pots (thus still containing water) will undergo the same transition, making pottery production impossible during in the colder months of the year. For more information regarding the natural mechanisms affecting pottery production, see Arnold 1988.

[548] Personal communication with Jeroen Poblome.

[549] The east slope workshops were discovered during the excavation of the 1997-1999 series of test trenches dug across the Central Depression and its surrounding slopes. The test trenches and the subsequent extensive excavations (2000-2001) were supervised by Jeroen Poblome. Apart from internal preliminary reports, the results of those excavations have been described concisely in the respective *Kazı Sonuçları Toplantısı* XX.2, 293-295 (Poblome 1999b); XXII.2, 166 (Poblome & Degryse 2001); XXIII.1, 13-15 (Poblome 2002); XXV.1, 215-216 (Poblome 2004a) and in the article Poblome *et al.* 2001. A more comprehensive study is being prepared by Jeroen Poblome and Philip Bes. The adjoining *naiskos* tomb and its surrounding *temenos* were discovered in 1999 by Jeroen Poblome, but have been mainly excavated during the 2012-2013 excavation campaigns under supervision of Johan Claeys (see § 7.4.2).

exact contours of the largest, western pit could not be completely traced but its length was over 3.00 m. This pit was filled with lenses of Çanaklı clay, varying from greenish to greyish, with locally a rich admixture of organic material. Several smaller pits were discovered more to the east, each containing the greenish Çanaklı clay. The presence of two distinguishable clay matrices in the larger pit suggests the existence of two pits, even though no structural separation was found. Wood could have been used to separate between different stockpiles of clay, which might not have left traces. Pottery collected from the deeper parts of the pit could be dated to the later Augustan period. The layer immediately topping the remains contained ceramics from the 3rd century AD, providing a *terminus post quem* for the abandonment of this infrastructure. This zone can be identified as the clay storage area where the clay was allowed to soak in pits cut into the 'waterproof' bedrock.

This clay storage area continued right up to the eastern side of a clay processing unit (**Fig. 6.16**). The installation was dug as a cellar into the ophiolitic bedrock and had a roughly rectangular plan of *c.* 4.0 m by 2.7 m and a height of at least 1.45 m. The walls were partially constructed in mortared medium-sized limestone rubble and partially in volcanic tuff blocks interspaced with layers of tiles. A white plaster facing was applied on the inner side, implying that the structure had a roof and/or an upper floor. A semi-circular brick-built window was located in the eastern wall. The western half of the installation contained a channel system of on average 20 cm wide and 15 to 25 cm deep, which ran around a central 'table'. Clay recovered from the 'table' and channels was analysed as originating from Çanaklı. It is proposed that the clays were brought in through the window in the eastern wall straight from the soaking pits. Inside the 'cellar' the clay would be kneaded and trampled. Excessive water could be captured in the channel. The labourers could only have entered the unit from above, possibly by means of a removable ladder. No finds could be attributed to the construction phase of this structure, but its position in time can indirectly be derived from its contextual association with the adjacent storage pits. Inside the clay processing unit the remains of a complete *pithos*, container and half an *amphora* (**Fig. left**) were encountered, the sherds of which were neatly put on top of the filled channel, around the table (interpreted as abandonment behaviour by the excavators). Their completeness and date (2nd century AD) suggest that these are functional parts of the furnishing of the unit, with for example the *pithos* containing the water required in the kneading process. The structure was partially dismantled and backfilled in order to create a new working level for the construction of the *naiskos* tomb to the northeast (see § 7.4.2). The fill of the unit is dateable to the (early) 3rd century AD, which concurs with the construction of the *naiskos* tomb.

Another space that can be attributed to the Early Roman Imperial pottery activities was identified west of the clay preparation infrastructure. Originally it may have belonged to another workshop unit. The lion's share of the room falls outside of the excavation trench. Only one, northern wall could be associated with the space: a curved and stepped limestone rubble wall that could be followed over a distance of 10.5 m (the higher, back part of the wall might be a Late Roman intervention). Towards the east a stepping arrangement was incorporated into the wall (**Fig. 6.17**). The floor consisted of a white to greyish mortar, comparable with the other spaces that are associated with the Early Roman Imperial workshop activities (see further). The backfill layer immediately on top of this floor contained 3rd century AD sherds, attesting to the same operation that levelled the other Early Roman Imperial infrastructure in the surroundings. There are no indications for the function of this space, apart from the structureless remains of a possible oven.[550]

[550] Poblome 1997-2002, internal excavation reports.

Fig. 6.16. Early Roman Imperial clay processing unit, view from the southwest.

Fig. 6.17. Stepped north wall of a second Early Roman Imperial workshop (?), view from the east.

Also the space in between the *temenos* wall of the tomb and the east wall of the Late Roman workshop, supposed to have been an open space in Late Roman times, might have served as a room of an Early Roman Imperial workshop. In the north the space was bordered by a stepped wall and the terrace wall itself over a distance of 5.2 m. This space is further defined in the east by the west wall of the *naiskos* tomb's *temenos* (over a distance of 14 m) and in the west by the east walls of the Late Roman workshop rooms (over a distance of 1.4 m). It must be stressed that neither the Late Roman eastern nor western borders of this space necessarily coincide with the original eastern and western walls. The space was originally divided into two rooms, but still in Early Roman Imperial times the east-west dividing wall was taken down. Within the northern part a clay pit was cut from the bedrock. No datable finds were associated with the clay pit. The earliest floor level of these rooms dated to Augustan times and the partial backfill that incorporated both rooms into one larger space implies a second occupational phase in the 2nd century AD. There are few elements within this space that can sell its function, but the clay pit seems to point once more towards pottery production.[551]

Apart from the clay preparation installations and the associated workshop rooms (?), also the remains of three or four kilns can be attributed to the Augustan phase of pottery making at this location. One partially preserved oval kiln (long axis: 2.65 m; short axis: 1.85 m) was encountered at the southwestern corner of the *naiskos* tomb's *temenos*. Both the floor and part of the back wall were cut out from the sloping ophiolitic bedrock. The standing walls were constructed of fired mud bricks (34 x 13 x 10 cm). The inside was plastered with mud. No traces were found of the entrance to the combustion chamber, the flue, the support of the kiln floor, or the superstructure of the kiln. The front of the kiln would have been more prone to erosion because of its position down slope. But this arrangement would have made access easier to both to the lower flue (adding fuel) and the upper kiln floor

[551] Poblome 1997-2002, internal excavation reports.

(stacking the ceramic products). The kiln was partially dismantled in Antiquity, after which the remaining structure was filled with large-sized limestone boulders. Material collected from the floor level date the abandonment of the structure at the end of Augustus' reign.

About 8 m northwest of the oval shaped kiln a second kiln was exposed (**Fig. 6.18**), the remains of which had been raised to the ground and were preserved to a height of *c.* 0.35 m underneath the southern rooms of the Late Roman workshop (see § 8.3.1).[552] The remains consisted of two rectangular combustion chambers separated by a central wall. Originally, the central wall sustained two long vaults which spanned both combustion chambers, and supported the kiln floor. The combustion chambers were *c.* 3.2 m long and *c.* 0.8-0.9 m wide. The burnt mud bricks used for the construction were similar to the bricks from the oval kiln (33 cm x 17 cm x 10 cm) and here the floor as well as the inner face of the wall was covered with a thick layer of mud plaster. The compacted backfill with debris from the structure itself is mixed with ceramics from the 1st century AD.

A third kiln was encountered immediately south of the southwest room of the Late Roman workshop. This is the least preserved of the known kilns, with no standing remains. The plan must originally have been circular, with an estimated inner diameter for the combustion chamber of 1.8 m. A wall parallel to the south wall of the Late Roman workshop was built on top of the original combustion room, apparently creating a narrow alleyway in front of the workplace. The ceramics of the fill were consistently Early Roman Imperial in date.

Middle Roman Imperial phase

Recent revisions of the original excavation data reveal that the Early Roman Imperial workshops were not completely abandoned, but rather reorganised and relocated within the remaining area when the *naiskos* tomb was built. It is most likely that the early atelier would have kept on functioning until the construction of the Late Roman workshop.[553]

This period is represented by a roughly circular kiln with an inner diameter of max. 2.3 m (**Fig. 6.19**), which was discovered underneath the southwest room of the Late Roman workshop was discovered. The combustion chamber had a central support from which arches sprang radially supporting the kiln floor. In contrast to the other two kilns all structural parts were constructed with (fragments of) regular bricks. As with the other Early Roman Imperial kilns, no remains from the superstructure were preserved, even though the kiln was preserved to a height of 1.07 m (16 rows of bricks). Mud plaster was again applied on the inner surfaces. The abandonment and backfilling of the kiln appears to be immediately linked to the construction of the Late Roman workshop. The western wall of the Late Roman workshop is not build on top of, but into the flue of the kiln, meaning that the remains of the kiln were not yet backfilled at the time of erecting the Late Roman workshop. The ceramic assemblage of the fill of the kiln can be placed in the second half of the 3rd century AD, providing a *terminus post quem* for the construction of the Late Roman workshop.

Remains of this Middle Imperial phase were also encountered in a 2013 sounding which was executed along the back wall of the *naiskos*, within the *temenos*. The foundation trench of the monumental tomb cut through the architectural remnants of the workshop, represented within the narrow trench by the stone plinths of two small, north-south oriented interior walls. The find assemblage encountered between both walls included patches of Çanaklı clay, some discarded pottery tools (a metal *stylus* for incising, a worked bone for polishing, a piece of abrasive sandstone and two stamps), some mould fragments (among which the mould for a stamp of Hermes-on-pedestal) and a lot of pottery waste dateable to the 3rd century AD. Several water channel segments, encountered close to and on top of the workshop floor, were reused in a secondary function inside the workshop. One of these pipes was still standing vertically inside a lump of *in situ* clay.

[552] A stratigraphical study of the relation between the kiln and the Late Roman workshop walls on top revealed that the kiln was not dismantled in order to accommodate the new workshop; several centuries may have passed between the dismantling and the new building phase in Late Roman times.

[553] Personal communication with Jeroen Poblome and Philip Bes.

A very similar arrangement was encountered in 2012, abutting the outside of the *naiskos* tomb's western *temenos* wall. These remains also included a layer of raw Çanaklı clay in which a vertical terracotta water pipe segment was positioned. The patch of clay was originally confined by an improvised wall constructed of large *pithos* sherds. These remains could not be attributed to the Late Roman workshop phase, but clearly postdate the construction of the *naiskos*.[554]

Both areas should be considered as components of the clay preparation area of the Imperial workshop. Just like the better preserved remains south of the *naiskos* (see above), they are located in the eastern half of the site. Despite the destructions caused by the construction of the tomb, a certain division between a 'wet zone' (in which the clay is prepared) in the east and 'dry zone' (containing the kilns) in the west can be premised.[555]

Fig. 6.18. The Early Roman Imperial rectangular kiln, view from the northeast. The circular kiln represented in Fig. 6.19 is located in the room behind the picture board.

Fig. 6.19. The circular kiln, view from the southwest. The dismantling of this kiln predates the Late Roman pottery workshop, but its construction date is less clear.

A contemporary Early Roman Imperial pottery dump was encountered in one of the 1997 test soundings, 15 m southeast of the PQ 1 trench. The dump was deposited immediately on top of the bedrock and contained kiln waste mixed with misfired Early Roman Imperial table ware. This was the start point for the largest and longest used pottery dump site known in Sagalassos. Throughout Imperial times misfired ceramics and other production waste have been dumped along the eastern slope (and possibly also more in the centre) of the Central Depression.

[554] PQ 1 2013 internal excavation report by Johan Claeys.
[555] Personal communication with Jeroen Poblome.

6.3.3 The site of the coroplast workshops

The coroplast workshops are located centrally in the Eastern Suburbium (see **Attachment 3**). The decision to open an extensive excavation at this location was based on the map resulting from the 2003 geophysical survey, which showed several anomalies within a small area in the central Eastern Suburbium. The main initial intention was indeed to come to a better interpretation of the geophysical results and a re-evaluation and potential adjustment of the applied geophysical methodology.[556] These circular anomalies were interpreted as kilns, a hypothesis that was confirmed in the excavations which took place in 2004[557] and from 2008 till 2011[558]. More than is the case in the east slope workshops, the vast majority of structural remains were dated to the Late Roman period. However, evidence throughout the trench showed the presence of Late Hellenistic - Early Roman Imperial activities on the site. None of these remains can be directly linked with workshop activities, however. The earliest preserved structural remains that were encountered in 2004 were restricted to a possible Late Hellenistic section of a terracotta water channel imbedded in an occupational horizon and a wall fragment in the western extent of the excavated area, dated to the 1st century AD based on sherds encountered in its foundation trench.[559] During the 2008-2011 seasons several Early Roman Imperial walls were exposed in the southeastern part of the trench, which belonged to early structures and which seem to have their upper portions reused as support walls for ceramic kilns when the workshops were built.[560] These structures appear to have been built against – or are part of – a large monumental building (not excavated), that is located immediately to the southeast of the PQ site (see § 6.5.3).

6.3.4 Site F workshop(s)[561]

Throughout the preceding period attested human interventions on the terraces of site F appeared to have been mainly restricted to funerary activities. The 1st century AD would then claim the southern half of the site for artisanal purposes. Here a large-scale reorganization of the area was undertaken, including a partial rebuilding of the west part of the terrace wall and the subdivision of at least one terrace into a series of covered spaces used as workshops (**Fig. 6.20**). For this purpose the perpendicular walls were used to convert the originally presumably open spaces into separate rooms to the east and west. The space in between both walls, containing the eleven cremations described above, appears to have remained an open area, probably in order to continue guaranteeing access between terraces through a stepping arrangement in or against the terrace wall.[562]

Neither of the two new rooms was fully excavated. No obvious function could be ascribed to the room to the east, but the presence of a small stockpile of pure clay on top of a small preserved part of the original floor level, in the northwest corner of the room, could point towards clay preparation (for pottery production). The type of clay, however, did not match known production clays. The terrace wall itself served as the northern back wall of this room. The wall perpendicular to the terrace wall is north-south oriented, 0.80-1.00 m wide and 5.50 m long, while being preserved to an altitude of between 1.65 m (north) and 0.40 (south). It is built against the terrace wall but not interlocking. The bottom row of stones is embedded inside the first layer above natural bedrock. At its southern end there was no lateral wall nor corner; the room might have served as a half open space carrying a sloping roof. The wall is constructed of non-dressed medium- and large-sized limestone blocks, with the exception of a few roughly cut blocks, with the inner (eastern) face being more regular than the outer face.

[556] Mušič *et al.* 2009.
[557] Under supervision of Peter Talloen (KU Leuven).
[558] Under supervision of Elizabeth Murphy (Brown University).
[559] PQ 2004 internal excavation report by Peter Talloen.
[560] PQ 2008-2011 internal excavation reports by Elizabeth Murphy; Murphy & Poblome in press.
[561] For an introduction to site F, see § 5.4. The 1990-1991 excavations at the site have been presented in the *XIII. Kazı Sonuçları Toplantısı* proceedings as well as in *Anatolian Studies* 41-42 and *Asia Minor Studien* 6 (Waelkens *et al.* 1991a, 206-212; Waelkens *et al.* 1991b, 288-291; Waelkens *et al.* 1992; 91-97, Waelkens 1992). The 2011-2012 campaigns have been concisely reported (Turkish only) in the *XXXIV.* and *XXXV. Kazı Sonuçları Toplantısı* proceedings (Claeys & Poblome 2012a; Claeys & Poblome 2013a). However, most of the data mentioned throughout these paragraphs are retrieved from internal excavation reports, unless specified otherwise. The anthropological study of the human remains recovered in 1990-1991 at the site have been published in the *Sagalassos* series (Charlier 1993a; 1993b; 1997).
[562] F 2011 internal excavation report by Johan Claeys.

Especially the northwest outer corner of the wall is particularly irregular, with large blocks protruding from the wall. This is the part where a supposed stepping arrangement gave access to the upper terrace. This 'staircase' was probably re-arranged in Roman Imperial times, with the irregular part of the new wall interlocking with the steps. The room was backfilled to create a new, higher walking level as early as the 2nd century AD. No activities can be associated with this later level.[563]

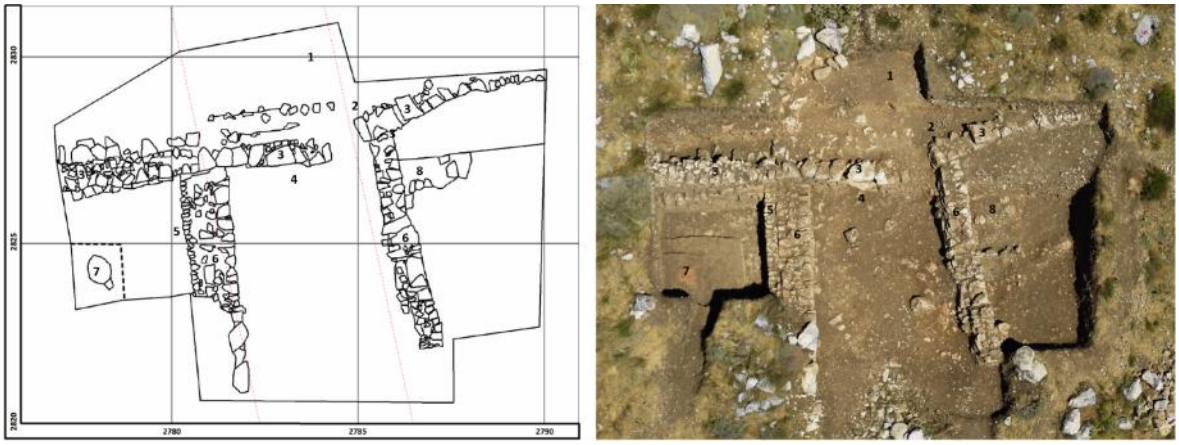


Fig. 6.20. Masterplan and georeferenced orthophoto of the 2011 southern trench at site F. See Attachment 1 for more detail.

Also the western room was only partially excavated. A burnt patch of earth inside the room indicated the location of a dismantled pottery kiln, with the burnt soil not being part of the kiln itself, but resulting from the effect of long-duration heath penetrating into the soil. The kiln would have been situated at a higher level and is not preserved. Based on the shape of the burnt stain, however, both its original shape (round/oval) and its orientation (flue pointed towards the southeast) can be tentatively reconstructed. This room can thus with more certainty be identified as a workshop, which also strengthens the identification of the eastern room as a clay preparation area – even though both rooms were not necessarily part of the same workshop entity. The exposed eastern wall of this western room is similar in construction technique and width as the west wall of the eastern room. Also this north-south oriented wall, on average 0.95 m wide and at least 6.50 m long, was constructed of non-dressed medium- to large-sized limestone blocks. The main differences lay in the observation that the wall was preserved to a more equal height (between 0.70-0.85 m), a more regular outer facade and the fact that a 0.30 m wide wall was constructed against its inner face along the length of the wall. It was preserved to the same height as the main eastern wall. This inner wall, made of dry and smaller limestone rubble, served as the base for a mudbrick wall with the same width. A part of this mudbrick wall was preserved intact inside the terrace wall (which meant that at least the upper stone rows of the terrace wall must have been rebuilt after the room went out of use, see § 6.2.3).

The narrow wall appears to be a later addition, even though evidence from its foundation trench (a city coin minted under Amyntas, 36-25 BC in combination with late 1st century AD ceramics) proves that its construction still took place in Early Roman Imperial times. In contrast to the wider wall, the more narrow wall is partially interlocking with part of the terrace wall that was rebuilt in Early Roman Imperial times. The floor level on which presumably the kiln originally stood has been dated to the period 80-120 AD based on the associated ceramics. It is difficult to put a date on when this space was abandoned. The backfill layers, however, contained a rather homogeneous assemblage of ceramics dating to the second quarter of the 1st century AD, thus predating the underlying floor level. It seems that the room was filled with soil that was thrown in from the terrace above, an operation in which another Early Roman Imperial space apparently was dismantled.[564] Another option is that we are dealing here with another phase of (partial) reconstruction work of the terrace wall itself, in which the soil dug out from behind the wall was thrown in the room.

[563] F 2011 internal excavation report by Johan Claeys
[564] F 2011 internal excavation report by Johan Claeys.

6.3.5 Other artisanal activities

Stone quarrying

While some smaller quarries might certainly be blocked from view underneath layers of screes, the sheer size of the quarries themselves as well as of their waste dumps makes them ideally to be spotted through careful field survey observations. However, erosion and weathering might obliterate many quarrying traces, making it difficult to identify them. Therefore, the aid of earth sciences (geologists, geographers and topographers) has been essential in documenting the quarries within the territory of Sagalassos. From their observations it could be understood that even minor outcrops and individual boulders could have been exploited. All in all, it is likely that the large majority of the quarrying activities in the Eastern Suburbium, Elmalı Pınar and Gökpınar areas have been identified. No stone quarries have been the subject of excavations in Sagalassos. One borehole core, from the middle of the large limestone quarry in the southeastern corner of the Eastern Suburbium, suggested that the exhausted quarry was used for large-scale waste dumping.

The presence of a large limestone quarry in the southeast of the Eastern Suburbium has already been discussed in § 5.2.1. Through a study of the provenancing of local building stone, the quarry activities here could be linked with the construction of the Late Hellenistic Fountain House and possibly with the predecessor of the 'current' Theatre in Late Hellenistic times and with the construction of the *nymphaea* on the Lower Agora and the construction of the Theatre in the 2nd century AD.[565] However, there are no major construction works dated to the earlier decades of the 1st century AD (Northwest Heroon, Stadion, Apollo Klarios Temple, honorific columns on the Upper Agora and the South Gate) for which the building material was provided by the Eastern Suburbium quarry.[566] We have to note at this point that the Early Roman Imperial period apparently represented a long phase of interruption of quarry works within the immediate vicinity of the quarter. The quarry was obviously not exhausted; several major construction sites in the 2nd century would use its stones.

Clay quarrying

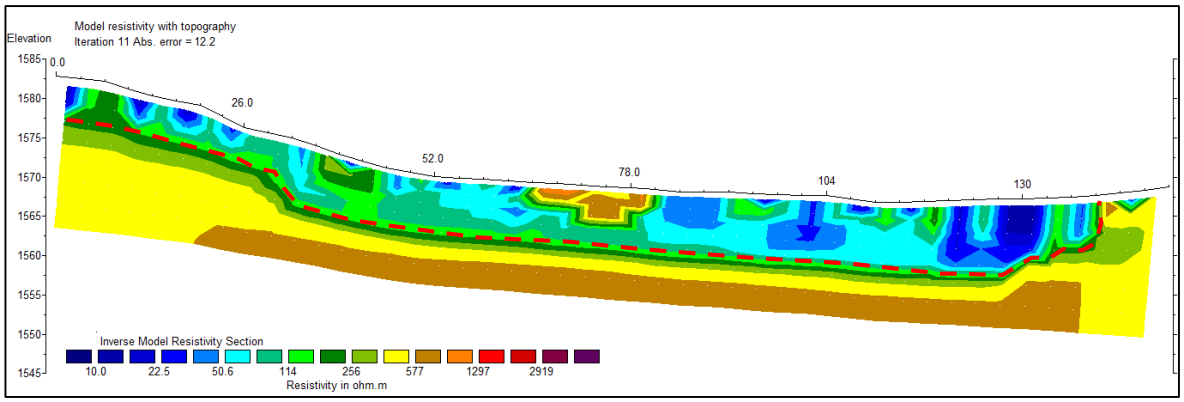
In sharp contrast to stone quarrying, ancient clay quarrying does not leave visible remains that can be easily picked up by field surveys. On the other hand, careful study of the topography and geology will lead to the identification of possible clay sources in the environment. The Central Depression was proposed as such a possible source, which was confirmed by a series of 1997-1998 boreholes and the exploited clay could be linked with specific pottery activities. Eventually, in 2012, test trenches near the southeastern entrance of the Central Depression uncovered clay quarrying activities near to the present surface (see § 5.3.2). No other suitable clay sources are present in the Eastern Suburbium or in its immediate surroundings.

The cores from boreholes, in combination with field and geophysical surveys, also suggested that the Central Depression was used as a huge waste dump after the clay quarry was abandoned (or to a large extent constricted). The results from the 2014 electrical resistance tomography survey suggest the zone above the quarry line (**Fig. 6.21**) as "*filled with weathered material collapsed and sedimented over the centuries. In some parts of this first zone there are anomalies with high resistivity values (2000-3000 ohm m) that probably could be related to 'stone objects'.*"[567] Those stone objects should probably be identified as stone boulders that came to a halt at the bottom of the Central Depression, as was confirmed through a 3D electrical resistivity distribution reconstruction of the subsoil.

[565] Degryse *et al.* 2007, 29-30 Tables 1-2.

[566] There are many relatively small quarries beyond the Eastern Suburbium to the southeast and in the surroundings of Gökpınar, but it seems highly unlikely that these would have been depleted for the construction of monuments in the city centre. It is much more plausible (and attested) that these quarries were used for the production of *sarcophagi* and for the construction of suburban *villae* lower in the valleys.

[567] 2014 and 2015 internal reports on the ERT surveys by Giovanni Leucci and Lara De Giorgi.



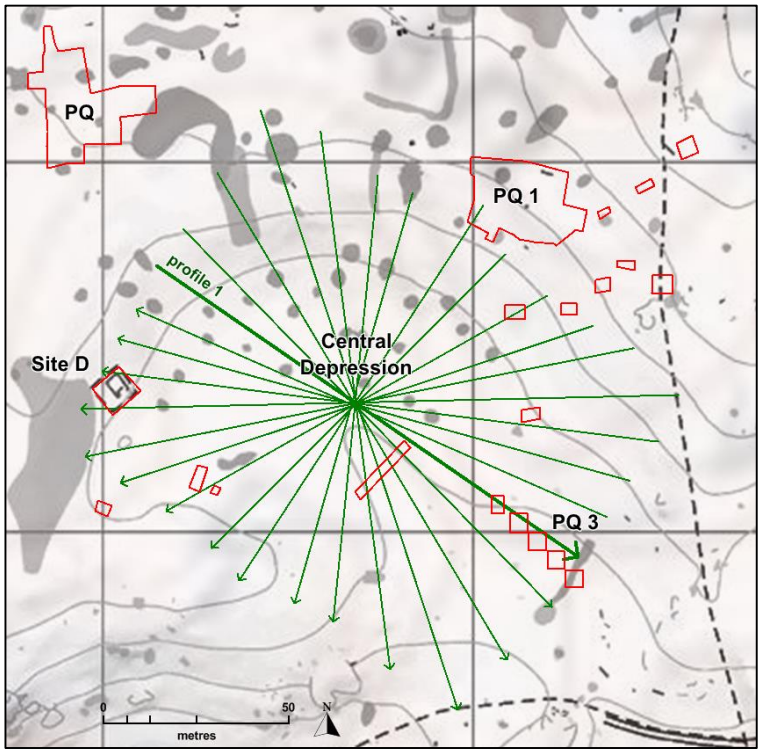


Fig. 6.21. Sixteen electrical resistivity tomography profiles were documented across the Central Depression (left). The chart above shows the 2D plotted results from profile 1, oriented northwest-southeast. The red dashed line in the profile represents the assumed clay quarry line, at a depth between 4.5 and 8 m below the current walking level. Patrick Degryse interpreted the substratum as ophiolite (brown), with karstic limestone on top (yellow). The southeastern end of the profile shows that the ophiolite bedrock can still be outcropping close to the surface, which was also attested in the PQ 3 trenches (see § 5.3.2).

Metallurgy

The presence of metallurgy activities is suggested by finds of metal slag at various locations, all of which are located in the margins of the Eastern Suburbium, within Elmalı Pınar and in the higher stretches of Çataloluk Pınar (south of the Eastern Suburbium and east of the lower city centre). The geochemical survey of the area (see further) did not give any conclusive evidence. In many cases, moreover, it is not possible to distinguish metal slag from ceramic slag without microscopic confirmation, which makes the identification of possible concentrations based on field surveys difficult. The presence of large amounts of slag can be understood as indications for the proximity of metal workshops, since waste was – if possible – dumped as near to the source as possible. On the other hand, we know that slag was also used in road construction[568], but the locations suggested in the map are very preliminary. None of the concentrations could be linked with any structural features. In the Elmalı Pınar area, geophysics seem to indicate the presence of large, round features, but this has not conclusively been confirmed. Geophysics picked up magnetic anomalies on the eastern slope of the Central Depression, which were originally suggested to be linked with metallurgy activities, but the 2012 test trenches showed that the ophiolite bedrock, which at this location is barely buried, caused the anomalies. Additional geological research based on the systematic soil sampling throughout the southeastern parts of the Eastern

[568] Forbes 1965, 153.

Suburbium, provides additional data for the pollution of the soil by various metallurgical activities, but not for the localisation of the possible workshops.

Other crafts

The study of find material recovered from Sagalassos suggests that several other types of products might be locally produced as well. The research on the glass finds from Sagalassos strongly suggests that a (secondary) production of glass existed at Sagalassos in Late Antiquity.[569] A 5th century AD smithy was installed in the reorganised western portico of the Upper Agora.[570] Large dumps of animal refuse resulting from bone carving, a.o. in the abandoned Macellum[571] and Library[572], suggest the presence of a professional bone carver within the centre. The remains of a possible textile atelier were studied in the reorganised building east of the Library.[573] Lime kilns have been encountered at several locations, a.o. in the reused *piscina* inside the large *basilica thermarum* of the Roman Baths.[574] All these examples date to Late Roman or Early Byzantine times, when it appears that crafting activities increasingly encroached upon the city centre. It is only fair to assume that at least a part of these crafts were already present in Sagalassos in earlier periods. It has furthermore been established that (secondary) glass production was also present in Sagalassos.[575]

One inscription from Sagalassos[576], dated to the second half of the 2nd century AD (or shortly after), refers to a "*συντεχνία των βαφέων*" (a *syntechnia* (*collegium*) of dyers[577]), who erected a statue in the Temple dedicated to Antoninus Pius in honour of the high priest of the Imperial cult.[578] This is generally associated with the importance of sheep for the manufacturing of clothes and blankets, even though the Pisidian context rather suggests that sheep were kept mainly for their milk and meat.[579]

The *proasteia* would have offered ideal circumstances for local craftsmen, but, apart from potters, no concrete evidence for the presence of other artisans has been discovered yet. It is clear, also from the dumps visible at the surface, that the potter's trade was the main activity within the Eastern Suburbium, but the absence of other types of crafts in the excavations is obviously no proof for its absence altogether. Most excavation sites were chosen for specific research questions: the Theatre Street North trench had the aim to study the local roads; site F was originally intended to collect ceramic assemblages, but eventually to study burial practices; the site G trenches had the aim to identify the so-called 'Gymnasion' (more likely a *campus*, see § 6.5.1); site D to salvage a monumental tomb; site PQ coroplast workshops to study the *chaîne opératoire* of pottery ateliers; the choice for the location of site PQ 1 resulted from a series of test trenches across the Central Depression; site PQ 2 was opened to study a potential communal building; site PQ 4 to date the so-called watchtower (in fact a burial compound) and PQ 5 to study the remains of the church. So with the potential exception of site PQ 3, a series of trenches opened in an attempt to identify a large magnetic anomaly, no excavations have been focused at studying potential other crafts within this quarter. The above reasons for excavating each individual site, in fact, entailed that the potential to encounter other craft activities would have been limited in the first place.

6.3.6 Research techniques and biases

The assessment of the presence of artisanal activities in the Eastern Suburbium of Sagalassos is subject to the biases inherent in the research techniques (see also § 2.2.3). In many cases it will be impossible to confirm the

[569] Lauwers *et al.* 2005 and 2007.
[570] UA 2000 internal excavation report by Peter Talloen *et al.*
[571] Macellum 2005 internal excavation report by Julian Richard & Mustafa Kiremitçi.
[572] De Cupere *et al.* 1993.
[573] Poblome *et al.* accepted.
[574] RB 2011 internal excavation report by Rob Rens.
[575] Lauwers *et al.* 2007.
[576] IGRR (*Inscriptiones Graecae ad ResRomanas Pertinentes*) III 360.
[577] Lanckoroński 1892, 225 no. 195; Zimmermann 2002, 31, 106, 194.
[578] Talloen & Waelkens 2004, 210.
[579] Beuls *et al.* 2000, 847.

presence of crafts on the basis of survey results alone (even when field surveys, geophysical surveys, geochemical survey and aerial photography are combined). Most crafts would not produce large amounts of waste by-products that would lead to dumps eventually ending up outcropping in erosional layers. Even when these artisanal activities require heat sources, which register relatively clearly on magnetic geophysical scans, in most cases they cannot be attributed to specific crafts.

The presence of an important pottery production centre within the area was already suggested on the basis of the first field surveys conducted in the Eastern Suburbium in 1987. This was confirmed by the discovery of the east slope workshops in 1999. Since then, excavations have established the presence of pottery kilns in two more trenches within the *suburbium*: the coroplast workshops and site F. By far the vast majority of kilns, however, have been discovered through geophysical surveys, which started in 2003. These surveys covered most of the Eastern Suburbium, and a clear concentration of kilns was silhouetted on the geophysical maps in the centre of the area. However, the 2011 excavations at site F indicated that the higher slopes of the Eastern Suburbium, which could not be surveyed with geophysical instruments, were also at least partially occupied by potters.

Interpreting the data

Our knowledge on artisanal activities in the Eastern Suburbium, Elmalı Pınar and Gökpınar areas has been obtained through a variety of scientific techniques (intensive field surveys by archaeologists, geologists, geomorphologists and geographers, various geophysical techniques, borehole cores and surface soil sampling, georeferenced aerial photography, test trenches and extensive excavations, see also **Attachment 9**). The resulting maps (**Fig. 6.22**) have to be interpreted with caution. On the one hand, each map represents a simplification of the situation, since only extensive excavations can be accounted to unveil the majority of past activity at the spot (at least the type of activities that would leave behind archaeologically detectable traces). The vast and dense record of archaeological remains within the Eastern Suburbium is for the most parts buried under erosional layers, especially screes covering large swaths of the northern and eastern parts of the area. These mass movements would also have eroded certain features, especially the ones located on the steeper slopes. Nevertheless, during the excavations at site F it could be observed that the terrace walls were effective in protecting structures and features from post-depositional processes. This makes that field surveys and detailed georeferenced aerial photography can on the one hand only reveal a small minority of features and activities, and on the other hand will result in an overrepresentation of specific remains. *Sarcophagi* and *arcosolia*, for example, were less affected by erosion because they were mainly scattered over the rocky outcrops. Meanwhile, buried funerary contexts (*e.g. bustum* burials, inhumations, *etc.*) will almost never show up during field surveys. In the case of artisanal activities, the vast dumps of pottery and slag encountered throughout the area give clear indications for the presence of ceramic and metal production in the immediate vicinity. However, most other possible artisanal activities will not result in huge amounts of waste by-products and thus cannot be detected by field surveys alone.

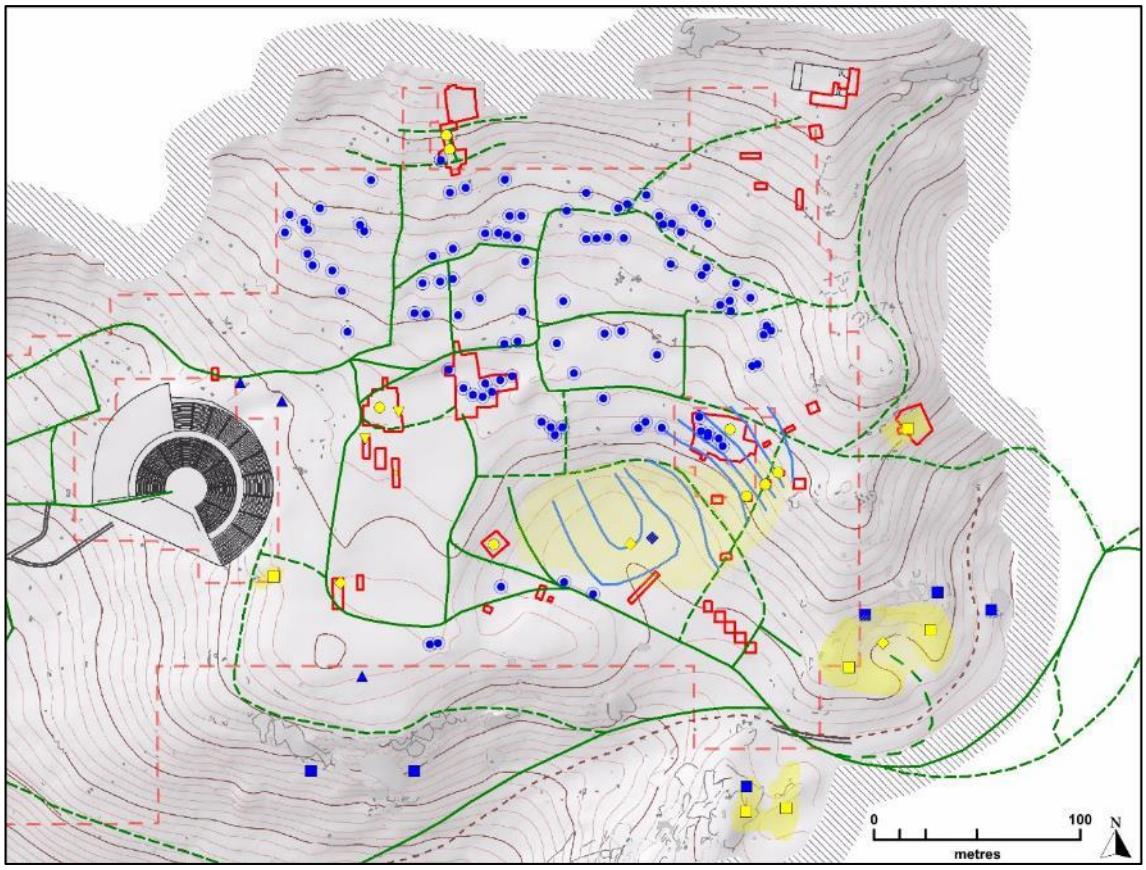
The geophysical surveys are subject to other limitations. Some densely overgrown (in the northwest) or steep (the marginal areas) parts of the Eastern Suburbium could not be scanned, even though excavations have indicated that the *continentia aedificia* extended in all directions beyond the current borders of the geophysical map. When comparing geophysical survey results with actual excavated trenches (*e.g.* in the case of the coroplast workshops or site PQ 2), it becomes clear that the geophysics provide an accurate, but simplified blueprint of the subsoil. The characteristics of the terrain make that many structural subtleties do not register, while other features cannot easily be interpreted. On the other hand, the efficiency and accuracy with which geophysical scans expose the magnetic characteristics of kilns, remains tantamount to the kilns being by far the best documented aspect of artisanal activities in the area. This implicates that other artisanal activities are inevitably obfuscated. The geophysical survey techniques obviously cannot establish a date for the remains they unveil and do not always allow to differentiate between kilns used for different purposes (*e.g.* pottery production, fulling, glass and metal production). A kiln for bread baking required only half the heat, less fuel and the firing was done at a raised floor[580]; the remains of these activities are thus less likely to be picked up by geophysical surveys.

[580] Personal communication with Jeroen Poblome.

The homogeneity of the kilns in location and appearance, together with the results from the field surveys, suggest that the vast majority of these kilns should be associated with pottery production. The known kilns still only form a restricted proportion of the total amount of kilns that would have been present in the area throughout the history of artisanal activities (not the whole area could be surveyed and badly preserved remains or dismantled kilns, attested in excavation, do not show up on the survey). The Late Roman coroplast workshops, which are the only workshops that were surveyed by geophysics before excavation, suggest that more than half of the kilns associated with these workshops were already recognised by geophysics: the survey suggested the presence of 7 or 8 kilns; the excavations exposed 11 kilns and 2 ovens.[581] It also needs to be kept in mind that the above maps (**Fig. 6.22**) suggest a contemporaneity of the exposed kilns, which obviously cannot have been the case, even though it is logical to suspect that most of the kilns exposed through the surveys can be dated to the later periods of the area (Late Roman – early Byzantine times).

In the end, test trenches and extensive excavations provide the most complete and trustworthy data, but for obvious reasons (practical limitations and the choice to reduce interferences with the archaeological record to a minimum) only three percent of the Eastern Suburbium has been excavated. The location of the various trenches has been determined by the topics of former research projects as well as by the ambition to cover a wide variety of activities represented in the area. Even though the geophysical map and previous research already provided us with a certain interpretation of the Eastern Suburbium, the most objective way to tackle this ambition would have been to cover the *suburbium* with a pattern of small excavation trenches at regular distances. But that tactic would probably have resulted in less conclusive data, since definitive identifications of features in many cases depend on the full understanding of the complete structure and its surroundings. A series of small test trenches would on the one hand have resulted in a better spread of the data, but on the other hand also in a lot of unresolved questions and hard to interpret data.

[581] PQ internal excavation reports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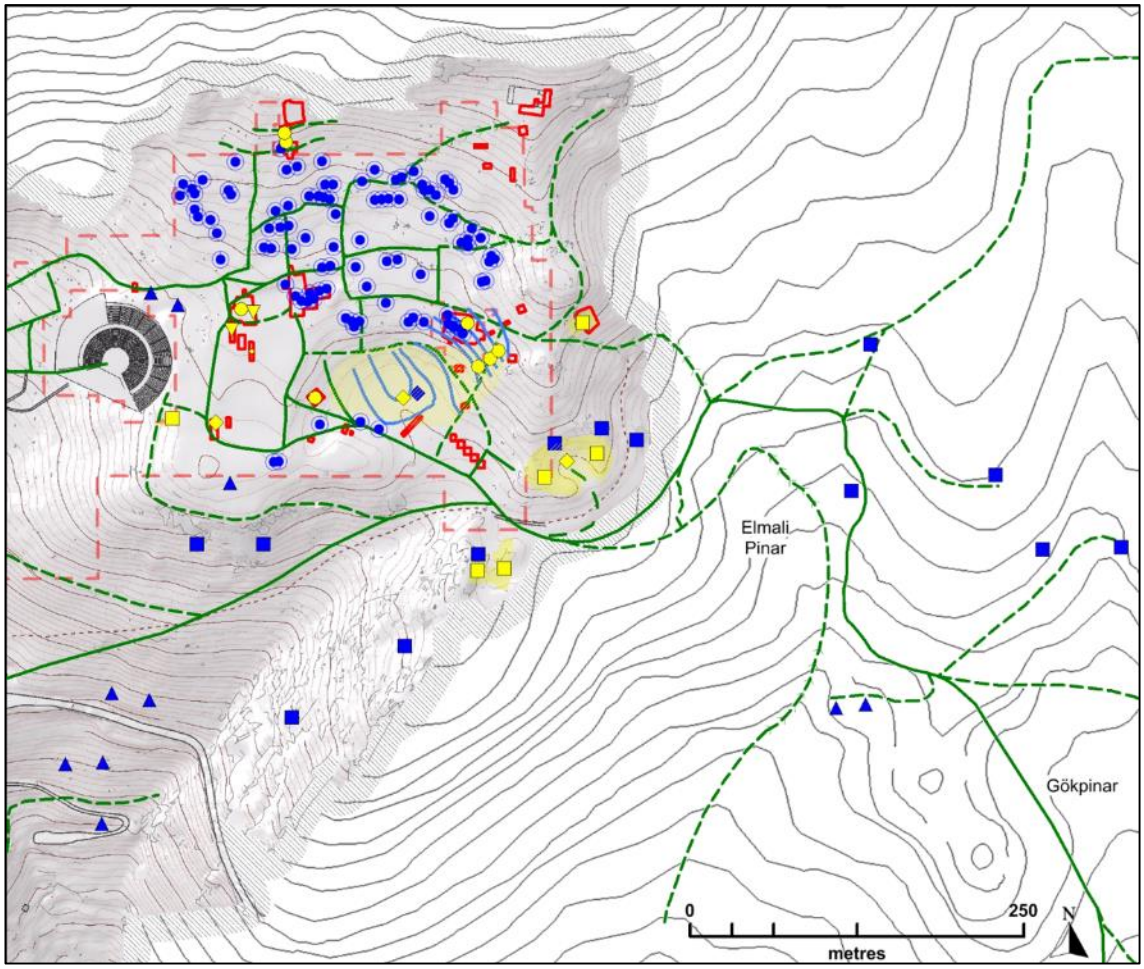
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Fig. 6.22 a/b (previous page). Map indicating the artisanal activities in the Eastern Suburbium (a) and the wider suburban area (b), plotted on the topographical background of the area, with indication of the excavated trenches (full red lines) and the extent of the geophysical survey (dashed red line). The artisanal activities are indicated in blue: pottery kilns (circles), limestone quarries (squares), clay quarry (diamond and light blue lines) as well as the suggested location of metal workshops (triangles). Some attested dumps are indicated as well in yellow: pottery dumps (circles), quarry dumps (squares), offal dump (triangles) and mixed dumps (diamonds). See also Attachments 15 and 16.

The Central Depression required a specific approach. The topographical conditions of the depression and its surroundings created an environment in which clay deposits could accumulate. Boreholes cores suggested that the clay beds were partially quarried after which the area was filled with several meters of mainly anthropogenic layers. The geophysical survey shows that the depression itself was never occupied by permanent infrastructure; the (seasonally) wet conditions of the subsoil were most probably unsuitable. The road crossing the Central Depression, for example, was propped up by walls, possibly because of the need to raise the road above the surrounding 'flood plain'. The anthropogenic dumps might have been in an attempt to profit from or even to reclaim this obsolete part of the quarter. Indeed, clay quarries, known as 'potters' fields'[582], were useless for agriculture and in many cases ended up as burial grounds for the destitute.[583] A 2014 scan of the area using 3D seismic refraction and reflection tomography (**Fig. 6.21**, see also **Attachment 9**) proved that the bedrock underneath the Central Depression forms an even more pronounced bowl-shape than is given away by the current topography.

In conclusion, the maps representing the attested artisanal activities in the Eastern Suburbium (**Fig. 6.22**) should be understood as a mere simplification of the real situation. The above described biases in research techniques, strategies and choices inevitably led to a restricted view of all possible features present in the area, with some aspects of artisanal life all but completely obscured and others overrepresented (but never completely represented). On the other hand, the map does not discriminate between different time periods and represents features that more than likely did not coincide contemporarily (an attempt to break up archaeological data in periodical maps is undertaken in Ch. 10). Nevertheless, we possess enough data to establish that pottery production was not only the driving force behind the artisanal produce of the area, but also physically occupied the central part of the quarter. Evidence for metallurgy has been encountered mainly in the form of waste dumps at the edges of the Eastern Suburbium. Even if this does not necessarily imply that the workshops themselves were also located there, many observations throughout the quarter have indicated that – whenever possible – waste was generally dumped not far from where it was produced. The stone quarries have already been described more in detail in the previous chapter (see § 5.3.1). Apart from the quarries, also several work floors could be identified, a.o. next to the Theatre and on the southern ridges. These activities as well mainly took place in the margins of the quarter. We need to acknowledge that other artisanal activities might have slipped through the figurative net, of which the mesh size is restricted by the difficulties of the terrain and the particularities of the research techniques at hand.[584]

Discussion

The PQ 1 east slope workshops offer the best preserved Early Roman Imperial pottery installation remains within the Eastern Suburbium, but evidence from site F provides us with valuable additional information. The high level of accuracy regarding the identification of kilns through geophysical survey (**Fig. 6.13** and **Fig. 6.22**) has been confirmed in the excavations. Based on the map created by the geophysical team an estimation was made of the maximum extent of the potters' quarter within the Eastern Suburbium, which probably reached its peak at the height of the SRSW pottery production output between Flavian and Severan times and again between the Leonid

[582] Bodel 2002, 128.

[583] Several cemeteries in North America still carry the name 'Potter's Field' (Bannos 2014), while the oldest known references come from the Bible (France 1985, 386). See also Footnote 155.

[584] See, for example, the discovery of a presumed textile workshop, next to a pottery workshop, at site Library East (Poblome, *et al.* accepted).

dynasty and the reign of Justinian.[585] The results from site F, however, show that the artisanal area already occupied peripheral zones in the early 1st century AD. In order to be able to estimate the extension and density of the built-up area in the first half of the 1st century AD, we need more data from excavated sites, since the geophysical map does not provide a chronological framework. Nevertheless, all excavated sites did yield remains from those early times and at least two sites (F and PQ 1) that lie in the periphery of the potters' quarter's core (**Fig. 6.13**) provided evidence for pottery production. It is thus not unreasonable to assume that the intermediate space would at least partially be occupied by other Early Roman Imperial workshops as well. It is not possible to suggest any specialisation for individual workshops; we lack both the necessary finds of pottery making tools (including the wheels and the eventual moulds) as the comparative material from the contemporary waste dumps. Nevertheless, especially the Early Roman Imperial east slope workshop provide insights into the process of clay preparation and the firing of pottery.

Evidence from elsewhere in Sagalassos shows how artisanal activities, such as bone carving, metallurgy, glass production, textile industry and the like, start to encroach upon the urban texture from the 5th century AD onwards. It could not yet be established where these other crafts would have been located in earlier periods. The Eastern Suburbium *proasteion* certainly must have offered opportunities for other crafts to settle inside this quarter as well, but this could not be confirmed yet. The absence from the archaeological record, however, may at least partially be explained by the lack of excavations that have been aimed specifically at identifying the potential presence of other crafts.

[585] Poblome in press b.

6.4 Funerary culture

6.4.1 Cremation contexts at site F[586]

Secondary cremation context or fire pit?

In the west of the upper trench of site F (**Fig. 6.23** no. 5) an elongated circular pit was excavated. The content of the pit itself appeared to be rather sterile, while a concentration of pottery, glass and metal fragments and some burnt bone (both human and animal) were collected from the upper fill of the pit, clearly distinguishable also by the amount of charcoal (**Figs. 6.24**-**6.25**). Most of the metal fragments consisted of burnt bronze scraps, three large nails bent twice in 90 degree angles, several pinched nails bent in a 90 degree angle and a hobnail. Glass finds consisted mainly of *unguentaria* (small, tear-shaped perfume bottles). Furthermore, remains of a worked bone hairpin was recovered from this context (**Fig. 6.31**). The ceramics encountered within the upper layer were mainly Late Hellenistic and Early Hellenistic, with some intrusive material.

The pit must have laid open for a certain amount of time; the finds and charcoal were trampled around which created a clearly visible 'walking level interface' in the profile across the trench. This feature was originally identified as a pit with cremation remains deposited in secondary position, which would explain the content of this context. However, this does not answer all the questions. A secondary burial would not have left the remains exposed at the surface, but would have resulted in their collection in a container (stone, ceramic, textile, wood) or in the actual burying of the remains at the bottom of a pit. The sterility of the bottom fill of the pit (containing a mixture of ashes and soil) and the rough lining with stones rather suggest that we are dealing here with a fire pit (a pit dug into the ground, in which a contained outdoor fire is made). That would also explain the random distribution by wind and trampling of the charcoal and remains around the pit, the presence of burnt animal bones and the majority of the ceramic assemblage that seems to consist of feasting meal waste rather than burial gifts (see § 6.4.4). The nails, *unguentaria* and hairpin could result from the clearing of an older cremation context or more likely of the *ustrinum* where the remains of an older funeral pyre were removed. If that is the case, then also human remains could unintentionally have ended up in the fireplace.

Fig. 6.23 a/b. Masterplan and aerial picture of site F during the 2012 extensive excavations. See Attachment 2 for more detail. The Late Hellenistic and (Early) Roman Imperial features are the fire pit with secondary cremation remains (11, see § 6.4.1), the primary cremation (10, see § 6.4.1), the vaulted family tomb (6, see § 6.4.3) and the remains of ritual meals (4, see § 6.4.4).

[586] For an introduction to site F, see Ch. 5.

Fig. 6.24. Top view of the pit with secondary cremation remains, with indication of the individual finds: circles represent glass fragments and crosses metal fragments.

Fig. 6.25. View from the south on a cross-section of the pit with secondary cremation remains.

Primary cremation context

South of the Hellenistic burial monument in site F (**Fig. 6.23**) and stratigraphically capping the Hellenistic *pithos* remains (see § 5.4.3), a primary cremation was documented. It consisted of a large rectangular burnt patch, completely covered with twenty-four brick tiles that neatly arranged in rows of six by four tiles (**Fig. 6.26**), which in turn were covered with a thick layer of lime (see further). These bricks (dimensions 28 x 28 x 3.5 cm on average) were loosely placed on top of the burnt spot, without the use of binding agent. They covered a total area of 1.80 by 1.20 m. Once the bricks were removed, the burnt layer underneath became visible. This superficial layer – only locally thicker than a few millimetre – consisted mainly of charcoal fragments, some of which large chunks of tree branches. The burnt spot can clearly be identified as the remains of a funeral pyre, but instead of allowing the remains to collapse into a pit as with a *bustum* burial, the pyre was left to burn out on top of the walking level, thus serving as an actual *ustrinum*.[587] This practice would normally be followed by the collection of the remains in order to bury them in secondary deposition. In this case, however, this action did not take place (**Fig. 6.30**).

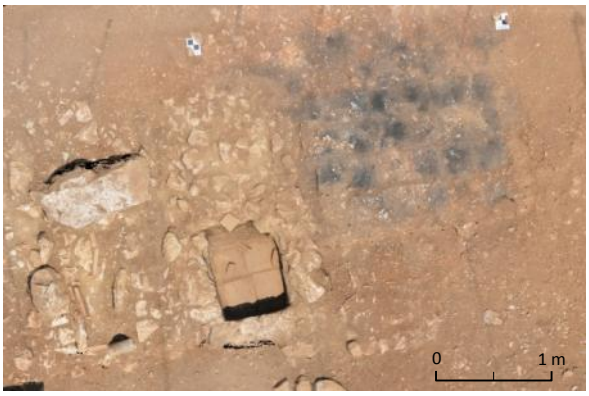

Fig. 6.26 a/b. Georeferenced orthophotography from the Roman Imperial primary cremation context (east) and two Roman Imperial - Late Roman individual burial tombs (west). The pictures show two different phases of excavation. The left picture shows how the burial was covered with twenty-four regular bricks (one is removed; one was shattered). The right picture shows the situation after the bricks were removed and the relics of the funeral pyre were exposed. The remains of the deceased still lay approximately in anatomical order (see also Fig. 6.27 and Attachment 11). The two Late Roman individual inhumation tombs are discussed in § 8.4.2

[587] The term '*ustrinum*' ('*kaustra*' in Greek) can refer to both a permanent structure where subsequent cremation pyres can be built, as well as to the one-off spot of a single cremation pyre.

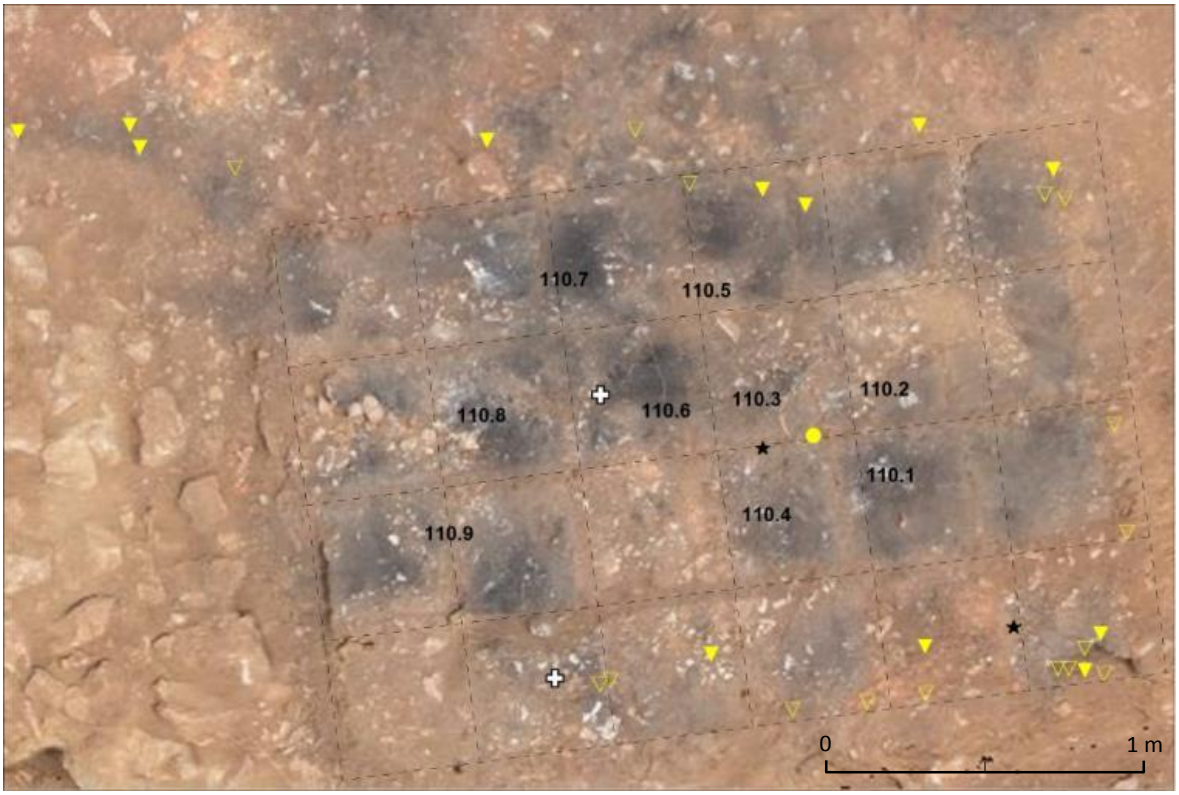

Fig. 6.27. Georeferenced orthophoto of the primary cremation context and symbolic indication of individual finds and the respective parts of the corpse. Legenda: full yellow triangles = nails; open yellow triangles = pinched nails; white plusses = worked bone; black stars = glass; yellow circle = coin. The numbers represent concentrations of burnt human remains that were collected separately. These remains were still more or less in anatomical order: e.g. fragments from the cranium and teeth were found in concentrations 110.1-2, from the arms in 110. 4-5/7 and from the legs in 110.8-9. The dashed line represents the location of the twenty-four bricks that covered the burnt remains.

Fig. 6.28. Detail of the concentration of burnt human remains 110.2, showing cranial fragments.

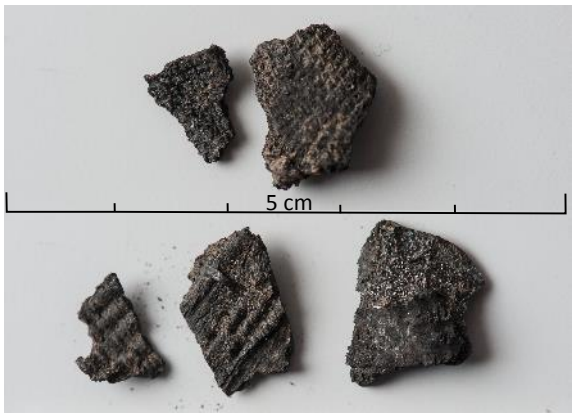

Fig. 6.29. Charred remains of the funeral pyre, showing imprints of textile and a woven or plaited item.

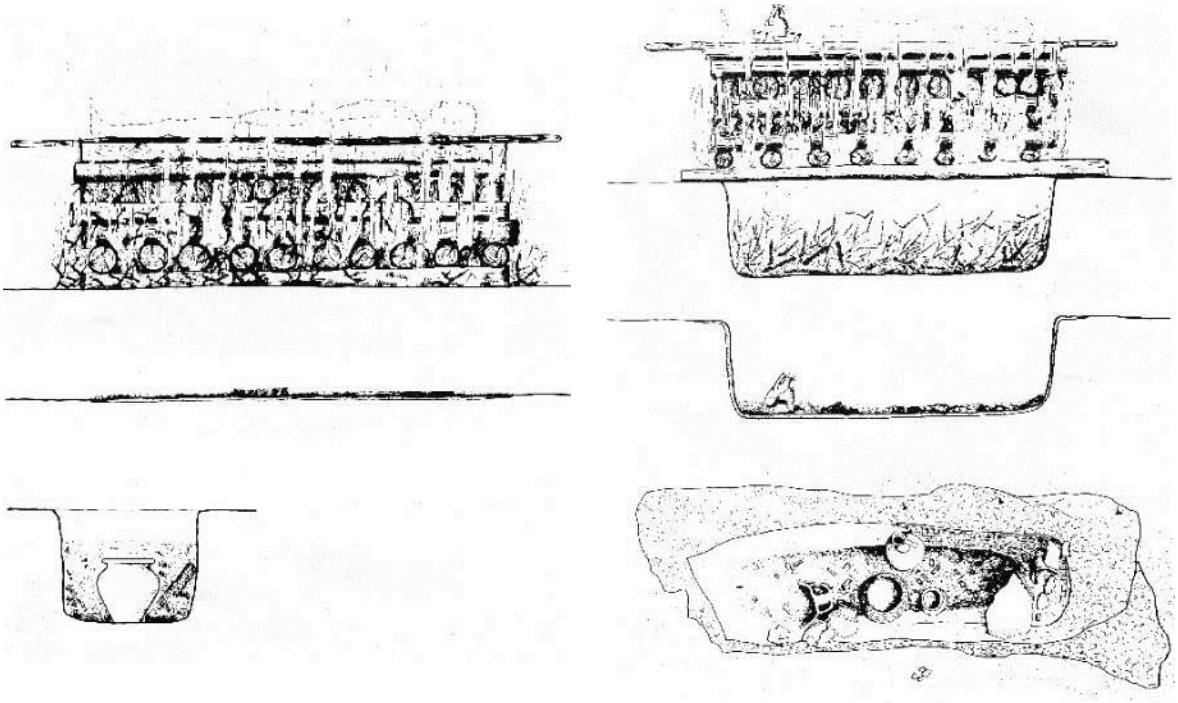

Fig. 6.30. The primary cremation context encountered on site F appears to be combining the funeral pyre arrangement on the left, in which the pyre remains are meant to be collected and deposited in a secondary burial context, with the premise of the *bustum* burial on the right, in which the remains are left *in situ*. From Hiddink 2003.

Fig. 6.31. Some of the content of the pit with secondary cremation remains: bronze scraps, a worked bone hairpin, a hobnail, some glass *unguentaria* and some of the intentionally bent large nails.

Fig. 6.32. Some of the content of the primary cremation context. Front centre right: coin dated to Amyntas (36-25 BC); front right: burnt remains of the worked bone clothing pin; front centre left: some of the pinched nails; centre: remains from a small glass flask; around; some of the larger nails that were found around the burial.

The pyre remains also contained the remains of burnt human bone, which were still positioned more or less in anatomical order (**Figs. 6.27**-**6.28**). The anthropological study of the remains resulted in the identification of the deceased as an adult male.[588] The burial context contained a Roman Imperial coin minted at Conana (modern-day Gönen in the District of İsparta), a few partially reconstructable ceramic vessels (a cooking vessel, a jar, a decorated cup and a mastos), one blown glass *unguentarium*, the base of a blown glass vessel and a worked bone pin with bronze shackles and hinges (**Fig. 6.32**) as remains of the burial gifts. At the edges of the burnt spot,

[588] Study by anthropologist Katrien Van de Vijver. Samples were also taken for DNA-analysis, but the quality of the material was too poor to yield any results.

partially underneath and partially beyond the brick cover, 12 mainly twisted nails and 20 bottom parts of pinched nails, each bent in a 90° angle, were encountered (**Fig. 6.34**, upper left). The small fragments of lime encountered among the burnt remains probably originated from a thick layer of lime that once covered the burial on top of the bricks. A large desiccated chunk of this slaked lime was preserved *in situ* and other large parts were encountered in the surroundings (**Fig. 6.36**). Archaeobotanical study revealed the presence of almonds, walnut and grape, as well as unidentifiable crusts containing cereal grains, within the burnt context; apparently these were added as grave gifts to the pyre. In the same locus charred remains with imprints of textile and of a woven or plaited item were observed (**Fig. 6.29**).[589] This last observation might be understood as a woven/plaited basket (containing the fruits and nuts?) or as a woven/plaited bier that was used to carry the deceased to his final resting place.

This funerary context is a primary cremation (meaning that the body is burnt 'on the spot') following the practice of a *bustum* burial, but without the presence of a pit underneath in which the remains of the funeral pyre could be collected. Some larger fragments of charcoal are remnants of the funeral pyre and even though the body collapsed together with the pyre, the general position of the main body parts was still recognizable. Another feature that sets this burial apart is the way in which it was deliberately covered (by bricks) as some kind of a preservation measure. The human remains were clearly never collected for secondary burial.

At the edges of the burnt spot dozens of large and pinched nails were strewn. The fact that almost none of the nails were found within the collapsed pyre seems to suggest that they were not part of the pyre itself and were not used in the funeral bier or coffin. All the pinched nails were bent in a 90 degree angle (as in the context described above), while also the other nails were made useless. Together with the presence of the brick cover of the pyre remains and a layer of lime covering the bricks, another explanation needs to be found for these interventions.

Nails used as talismans or against revenants?

There are many cases at cemeteries throughout the Roman Empire in which the presence of one or more nails cannot be explained in utilitarian terms (as in forming part of coffins, biers or grave goods). The nails in these cases appear to have been never used or, just the opposite, were rendered useless in a variety of ways: nails too large to be used, 'imitation' nails in impractical materials (gold, silver, ceramics) and nails that were intentionally twisted. Silvia Alfayé Villa[590], building a.o. on papers presented at the 1998 *Culto dei morti e costumi funerari romani* colloquium in Rome[591], mentions examples from mainly Italy and the western and northern provinces, but also from Corinth, Athens, Olynthus, Pergamon and Jericho. These nails are accounted for in both cremation and inhumation burials.

Within the site F inhumation burials (see § 7.4.7), as well as within the central burial chamber of the *naiskos* tomb (see § 7.4.2) and in most of the inhumations at the PQ 4 burial compound, nails have been identified that could be linked to the presence of a now decayed coffin. The coffins' sizes could actually be tentatively reconstructed through careful observation of the position of the nails, and in some cases the nails were still attached to splinters and fragments of wood that did not decay because of the corrosion effect of the metal. Where nails were used in a convincingly utilitarian way, they were retrieved perfectly straight or in a small minority of cases slightly bent/twisted (**Fig. 6.34**, right). The nails encountered in these contexts all have a square cross-section and either a large, flat head or a head projecting to only one side. Most nails are between 7-9 cm in length and the nails that deviate from this stay close to this range.

[589] Marinova 2012, internal report on archaeobotany of the 2012 excavation campaign at Sagalassos.
[590] Alfayé Villa 2010.
[591] These articles are published as Heinzelmann *et al.* (eds.) 2001.

The contrast with the nails retrieved from the cremation contexts at site F is striking. The nails here are either bent in a regular, double way (**Fig. 6.34**, lower left), or in a random way (**Fig. 6.34**, upper right). In both contexts we also encountered a lot of hooked, pinched nails (**Fig. 6.32**). The absence of a head or bulge that could have cushioned a blow from a hammer shows that we are not dealing with hobnails, sandal rivets, thumbnails or even so-called brads, the latter of which profit from a less pronounced head. They did have the same square cross-section and average thickness of the 'normal' nails found in other contexts, which is why we believe that these nails were pinched, nipped or chiselled in half. Only the lower halves of the nails were found, each of which was bent in a straight angle. Very similar contexts are well-documented at several Gallo-Roman cemeteries; Georges Bérard, for example, interpreted the tips of nails, deliberately nipped of the shaft and found scattered inside some Gallo-Roman tombs at the La Calade cemetery near Cabasse (Gallia Narbonensis), from a magical point of view: "*Cette valeur magique des clous est encore mieux attestée lorsqu'ils sont disposés tout autour d'une urne cinéraire* […]; *les clous constituent alors une véritable ceinture prophylactique*".[592] Even though there is a large geographical gap between Gallia and Pisidia, we presume that these examples form part of a widespread tradition, as is suggested by remotely similar contexts in Italy and Spain.[593] The 'missing link' evidence may have remained unpublished, since nails are in many cases overlooked or considered insignificant by archaeologists.

Also the find context of these 'deviant' nails is telling in the case of the primary cremation, which offers us a more or less undisturbed find context (**Fig. 6.27**). The construction of a pyre itself would not have included nails, so nails could only have had a practical use as parts of a coffin, bier or a nailed burial gift. If they would have been used in one of the latter cases, most of the nails would have ended up in the middle of the pyre remains, as was the case for the other finds associated with the cremation. However, all the nails, both the 12 complete ones and the *c.* 20 nipped ones, were encountered at the northern, eastern and southern edges of the pyre remains. Only the western edge of the burial seems to have lacked nails, but this is where in the 4th century AD an individual tomb was constructed (see § 8.4.2). It is very likely that the bent nails found within the fill of this tomb, as well as four pinched nails, originally belonged to the primary cremation context. Indeed, the almost identical 4th century AD tomb more to the west only contained complete straight (coffin) nails (**Fig. 6.34**, right) and no pinched nails. The latter were in fact only encountered in both the primary and secondary cremation context at site F.

We are not aware of any practical use for nails in this way in funerary contexts. The regularly double bent nails in the secondary cremation context could possibly be the result of clenching, an activity particularly used in strengthening doors or chests which renders the nails effectively useless or 'dead'.[594] Could the more random bending of the nails in the primary cremation context have been caused by the heat of the funeral pyre and the warping of the wood? Unlikely, since wood does not tend to crank intensively in a fire and an open fire would not reach a high enough temperature to severely impair the nails' strength. Moreover, their find locations seem to suggest that they were not part of any item that was burnt on the pyre itself. Nail heads could be chiselled or pinched off in order to retrieve *e.g.* metal fittings, but in the case of this primary cremation context, with the abundance and similarities in shape, length and location (see further) of the pinched nails, together with the complete lack of severed heads, another explanation needs to be put forward.

[592] See a.o. Bérard 1961 and 1963 (quote from Bérard 1961, 158).

[593] 'Headless nails' have for example also been encountered at the Ampurias cemetery (see Almagro 1955, 61-62).

[594] When the nail is hit all the way through the board, hammering the protruding end on the other side flat against the wood is a carpentry process called 'clenching. In these specific Sagalassos cases, the remaining tips of the nails then appear to have still protruded over the edge of the board, after which these were hammered flat as well, thus creating two straight angles. This technique is particularly used in strengthening doors or chests. In doing so, the nail was rendered useless for any other purpose. It would be difficult to remove and even more difficult to use again elsewhere. Thus, the bent nail was commonly called 'dead', which probably gave rise to the English expression "*as dead as a doornail*" (originally translated in the 12th century from the French poem Guillaume de Palerne, see Martin, G. (1996-2014) The Phrase Finder, phrases.org.uk).

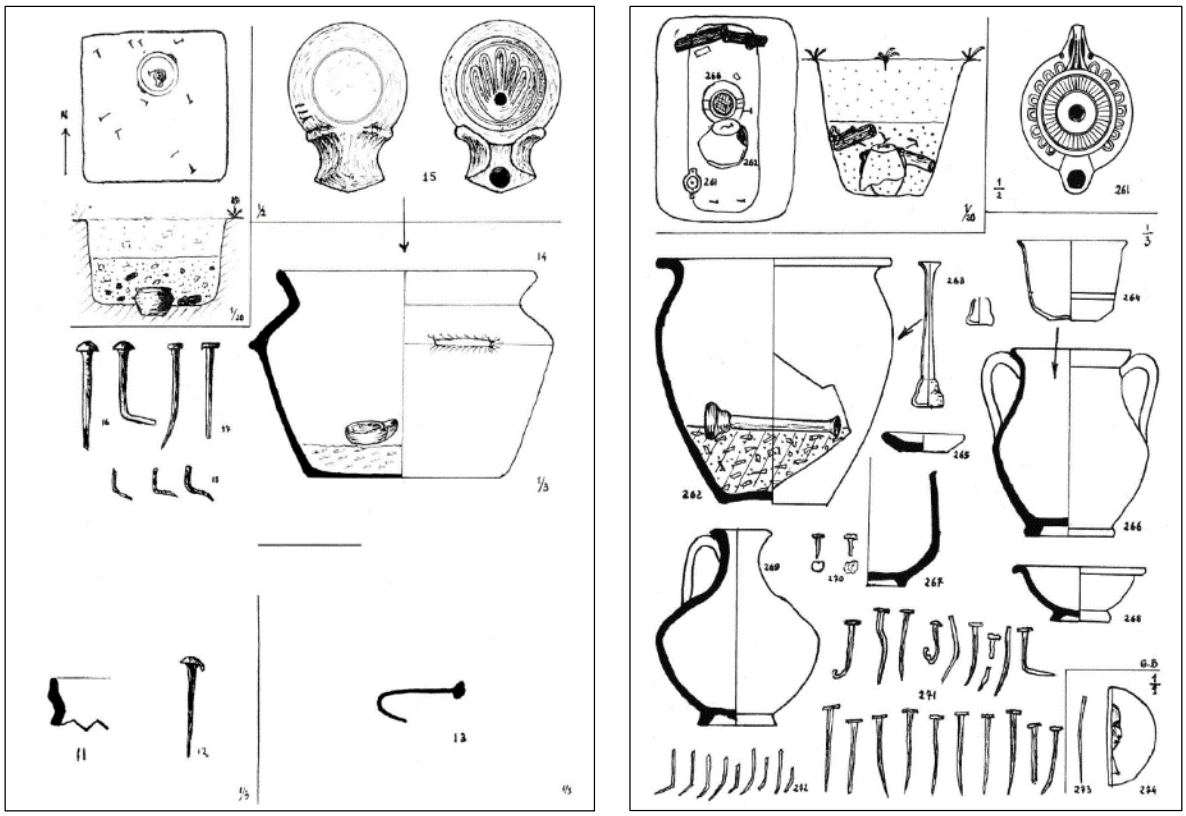

Fig. 6.33. Contents of respectively grave 3 (left) and grave 38 (right) at the cemetery of La Calade, Cabasse (Gallia Narbonensis). Notice the crooked and nipped nails in the assemblages. From Bérard 1961, Pl. XI and Bérard 1963, Pl. IV.

Fig. 6.34. Comparison between nails found in several Roman burial contexts at site F. Upper left: bent, twisted and broken nails from the deviant primary cremation at site F; lower left: nails from the pit with secondary cremation remains at site F; upper right: coffin nails from Roman Imperial inhumation burial L56 (see § 7.4.7); lower right: coffin nails from a Roman Imperial – Late Roman inhumation tomb at site F (see § 8.4.2). Note the use of defunctive nails in the former cases and the difference with nails as encountered in utilitarian contexts.

If these nails were indeed not used in a utilitarian way, there has to be an alternative explanation for their presence in these burial contexts. Since these practices, in some variety, have been encountered throughout the Roman Empire, we believe that the site F contexts are part of a wider phenomenon. Alfayé Villa claims how "[a]*rchaeologists have offered two hypotheses, which are not necessarily mutually exclusive, though they are often treated as such: the nails were either apotropaic amulets, intended to protect the deceased from evil in the Afterlife, or they were protective/defensive, to prevent the dead from returning to disturb or harm the living.*"[595]

References to the use of nails in magical contexts are known from the ancient literary sources[596], which suggest that nails can be used as charms against evil and disease (a.o. pestilence and epilepsy[597]). Nails were not only considered magical because of their functional 'fixing' qualities, making them an "*ideal basis for metonymic and metaphorical evocation*"[598], but also because of their material composition, to which medicinal and amuletic properties were attributed. For this reason the dominant interpretation of disabled defunctive nails in funerary contexts was that they were used as talismans protecting the deceased from threats in the Afterlife, not unlike coins and semi-precious stones.[599] However, in that case one would expect that the nail(s) were endowed into the grave or onto the pyre. In the case of the primary cremation at site F, the Conana coin was clearly intended in this way: it was even encountered where you would expect it in regard to the cranial remains (**Fig. 6.28**). The nails, however, were not part of the grave goods. The alternative view is that nails were used to lock the restless dead in their final resting place, so that they would not return from the Afterlife (so-called revenants). Restless dead could result either from 'bad deaths' (*modus moriendi*), *e.g.* through dying prematurely (*aōroi*), dying violently (*biaiothanatoi*), or being left unburied (*ataphoi, atelestoi, insepulti*), or from a life of deviant behaviour (*modus vivendi*).[600] Revenants were known to come back and haunt the living, which is why nails could be used to 'fix' the body and the spirit of the deceased to the grave. Also this interpretation has been made for both cremation and inhumation burials, throughout the Empire.[601] The practice is probably closely linked with the well-attested pinning of 'voodoo dolls' (**Fig. 6.35**) and the nailing of curse tablets in Classical Antiquity.[602] These tablets were not coincidentally called '*tabellae defixionum*' (from the Latin verb '*defigere'*, meaning 'to pin down') which were associated with the idea of delivering someone to the powers of the underworld.[603] The protective equivalent of the tabellae defixionum would be amulets, one of which was encountered at site F as well (see Footnote 597 and § 8.4.2; even though this amulet dated to a Late Roman context, it demonstrates that 'magic' formed part of the funerary practices applied at the site F burial grounds). The intentional bending and thus disabling of other types of metal burial gifts (and the deliberate destruction of grave goods in general) is

[595] Alfayé Villa 2010, 427 and 432 (quote).

[596] *E.g.* Columella *De re rustica*, 8.5.12: "*A lot of people under the straw of the nests also place some couch grass and twigs of laurel as well as bulbs of garlic with iron nails: all things they believe to be remedies against the thunders by which the eggs are spoiled and the half-formed chicks are killed before are entirely completed in their parts*." (translated by Elio Corti, Gessner Zentrum)**.** Pliny the Elder *Naturalis historia* 10.152; Livy *Ab urbe condita*, 7.3.3: "*It is said to have been discovered that the older men remembered that a pestilence had once been assuaged by the Dictator driving in a nail*."

[597] In Sagalassos, a magical charm directed against the 'falling sickness' (epilepsy) was written on a silver scroll, worn as an amulet, that was found in the drainage system of the Roman Baths (see also § 11.2.2). A very similar silver scroll-amulet was incidentally encountered in the western individual tomb adjoining the primary cremation context, even though this scroll was too badly preserved to be unfold and read (see § 8.4.2 and Footnote 1043).

[598] Alfayé Villa 2010, 432.

[599] *Ibidem*, 432-448.

[600] Alfayé Villa 2009, 183-188.

[601] Faraone 1991, 182 Footnote 62, 194 Footnote 103; Alfayé Villa 2010, 445-448.

[602] For a recent overview of magical practices in the Greek and Roman Antiquity, see Ogden 2004 or the revised sourcebook Ogden 2009 (original: 2002), with chapter 10 covering curse tablets and chapter 12 discussing 'voodoo dolls'. For an overview of 'voodoo dolls' encountered in archaeological contexts, see Faraone 1991.

[603] Crawley 1911, vol. 4., 367-374.

actually a practice with parallels in large swaths of prehistoric Europe[604], but also in the Greek East of the Iron Age[605] and even as recent as 18th-19th century AD Greece.[606]

The seemingly irreconcilable discrepancy that many scholars discern between both interpretations is that nails' magical purposes are both used for protecting and harming the dead. But in both hypotheses the difference might only lie in the identification of the receiver of the protection: the dead or the living. The one interpretation moreover does not exclude the other; Alfayé Villa, for example, sees a heuristic continuum between the two poles.[607] The difference might even be read from the burial context, *i.e.* an inscribed gold nail that formed part of the grave goods clearly has a different purpose than several defunctive nails strewn around the burial, while both are appealing on the associated protective powers of the nail. On the other hand, we might refrain from trying to define a single encompassing theory for the use of defunctive nails in burial contexts and allow for different implications deriving from the multi-faceted qualities that were ascribed to nails in ancient times. The significance of a certain practice in the Roman West might differ from the same practice in the East, but also within one and the same site nails could have been used in multiple ways. Moreover, we cannot pinpoint when ritual becomes tradition and loses its original meaning.

These uncertainties are certainly also caused by the lack of archaeological excavations that consider nails as significant finds and that register and publish a detailed record on the find circumstances of the nails within the wider burial context. At the same time we must keep a critical mind and certain questionable identifications of 'nailed burials' might be explained by other factors, *e.g.* the decomposition and collapse of the organic material or the *rigor mortis* of the dead body.[608] However, there are cases that are hard to discharge as wishful thinking. The exceptionally well-preserved primary cremation at site F is a context that might shed some additional light on these practices, since apart from the nails, other aspects of the burial process might also be considered as deviant. First of all, the burial can be categorized as an atypical *bustum* burial, since the funeral pyre did not collapse into a pit (to be covered by soil), but was allowed to burn out at walking level (the way the ash remains are fanning out towards the north (**Fig. 6.27**) even allows for the reconstruction of the predominant wind direction around the time of the cremation). The hard subsoil might be the reason not to dig a pit, but in that case one would expect that the physical remains of the deceased and the burial gifts would have been collected and buried in secondary deposition elsewhere (in the soil, in an urn, in an *osteothekos*, *etc.*). On the contrary, the centre of the pyre remains was neatly covered by a series of 6 by 4 bricks, after bent and nipped nails were strewn all around the burial. Subsequently, the bricks were covered with a thick layer of lime, of which only a central concentration was found *in situ* while many more large chunks were found in the surrounding layers (**Fig. 6.36**). This layer appears to have been at least 10 cm thick originally and suggests that the covering of the funerary pyre remains was not an intermediate step in the burial rites. The smouldering remains of the pyre were not covered temporarily in order for them to allow to cool down, but as a deliberate part of the burial process.

Apart from nails being employed for fixing the body, heavy weights were also used in an attempt to immobilize the potentially restless dead.[609] These practices have been attested time and again in both inhumation and cremation contexts, even though a comprehensive study on the practice is still lacking. Stone was used in most of these cases, while also *tegulae* and bricks have been documented.[610] This magical practice stands much closer to our current living environment; the use of heavy tombstones in cemeteries – in fact, probably the whole concept of covering a body with soil and/or stones – was believed to confine the dead to their resting place. There is also reason for caution and there might be cases in which stones that actually derived from the collapsed

[604] See a.o. Åström 1987; Fontijn & Fokkens 2007, esp. 367-368.
[605] See a.o. Alexandridou 2013.
[606] Tsaliki 2008, 11-13: she mentions a burial from Taxiarhis Myrintzou (Lesbos), where three bent 'spikes' (in fact large nails) were found in association with the burial.
[607] Alfayé Villa 2010, 448.
[608] Alfayé Villa 2009, 204-205.
[609] Ogden 2002, 164-166; Alfayé Villa 2009, 191-197.
[610] *E.g.* in the case of an infant burial, *i.c.* grave IB36 in the Poggio Gramignano Necropolis in Teverina (Italy), in which a heavy *tegula* was put on the feet and a stone in each hand (Alfayé Villa 2009, Fig. 9).

tomb structure were misinterpreted as being deliberately put on the body. Nevertheless, there are many documented cases in which the positioning of the weights was clearly intentional and could occur in combination with other deviant practices, *e.g.* burying a body face down, hands tied, decapitated or pinning a body down with nails, *etc.*[611]

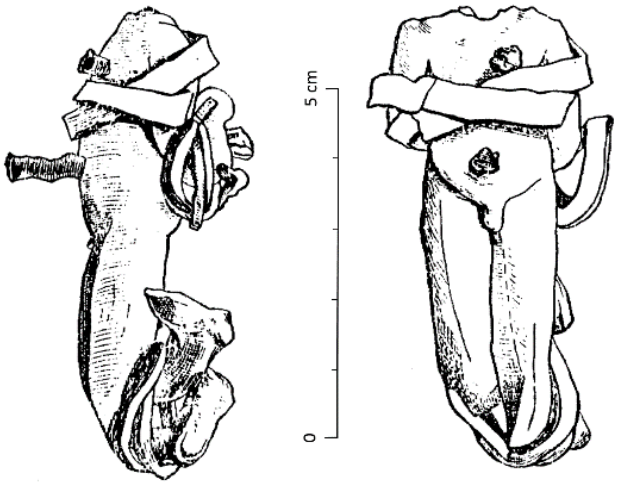

Fig. 6.35. Lead figurine from Athens showing several magical practices of immobilisation: decapitation, hands tied behind the back, twisted feet, and stomach and heart pierced by a nail. All these practices were in some form or another also put into practice with human remains in burial contexts. Christophe Faraone provides a list of 34 'voodoo dolls' from the Ancient World (Greek-Etruscan-Roman). Most of these originate from the Greek World, even though only one could be attributed to Anatolia: a bronze female figurine found near Smyrna(?). From Faraone 1991, 200-205, Fig. 7.

The presence of a thick layer of lime covering the primary cremation at site F is another aspect that deserves attention. Commonly called 'plaster burials', the tradition of using (a mixture of) chalk, lime – both quicklime (CaO) and hydrated lime ($Ca(OH)_2$) – and/or gypsum in burials, is widespread throughout many civilizations from the Pre-Pottery Neolithic period in the Near East onwards.[612] Even though lime is popularly associated with the accelerated decomposition of bodies, recent research has confirmed that chalk, the basic component of lime, would actually help to slow down the decomposition of the body.[613] Even though the effects of the chemical attributes of lime are still debated, it is clear that the full encasement of a body in lime creates a physical barrier, partially negating the effects of the general soil environment, restricting the release of cadaveric volatile organic compounds and therefore attracting fewer insects.[614] The assumed preserving qualities of plaster/lime gave rise to tentative associations with Christian preoccupations regarding the integrity and physical resurrection of the body[615], even though most known plaster burials are documented among non-Christian cultures. There are also no indications for the use of lime in an aesthetical, fashionable or folkloric way in (Early) Roman Imperial funerary contexts[616], which is why this particular primary cremation should be explained on the basis of other (assumed) qualities associated with the material: safeguarding against disease and contagion, reducing putrefactive odours, discouraging scavenging animals, *etc.*[617] Animals would not have been an issue in a cremation context, thus it

[611] Alfayé Villa 2009.
[612] For a historic overview, see Schotsmans *et al.* 2015, 464-465.
[613] Schotsmans *et al.* 2012, 50-51, 59; Van Strydonck *et al.* 2013; Schotsmans *et al.* 2015, 464-66.
[614] Schotsmans *et al.* 2012, 58.
[615] Alfayé 2009, 213.
[616] Another non-constructional use of lime is for example as an ingredient used in torture, as is narrated to us through the Early Christian accounts of martyrs (Ruter 1834, 16, 43-44).
[617] Schotsmans *et al.* 2012, 51. See for example also the recent, yet unpublished discovery by the Missione Archeologica Italiana a Luxor (MAIL) of a mass burial near the site of Luxor (Egypt), which has been linked to the so-called 'Plague of Cyprian' (3rd century AD). The bodies of the deceased were covered in a thick layer of lime, which according to the excavators was

seems most likely that this was an additional intervention aimed at protecting the living from possible malevolent impacts of this funerary context. The use of lime as a disinfectant has been debunked as ineffective by the World Health Organisation[618], but throughout most of history the belief in the miasma ('bad air') theory and in the disinfecting qualities of lime went hand in hand. This theory stems from Greek/Roman medicine and states that illnesses and diseases were caused by inhaling unhealthy mists and poisonous vapours[619], which would have included the putrefying smell of decomposing bodies. Until the 19th century AD, adding lime to burials was often prescribed in an attempt to prevent the escape of miasma from the decaying remains of corpses suspected to have died from contagious diseases.[620] Even though the case study at hand consists of cremated remains, the same principle might still have applied if there was any fear of contagion beyond the grave; the layer of hydrated lime is indeed most easily understood as an attempt to protect the living from the possible malicious effects of the deceased.

Of course, burial rites can also be defined as deviant if they diverge significantly from the norm, which is difficult to set for any particular point in time in any particular region. However, in the case of Sagalassos we do have a rather clear view on the evolution of burial practices for this particular period, suggesting that Hellentistic, and at a later stage also Roman, elements would strongly embed themselves in the local funerary culture.[621] Most of the data on funerary customs has been derived through the survey of burial monuments visible at the surface, which is why mainly rectangular and vase-shaped *osteothekoi* have been documented for this period. In addition, it is highly likely that the use of ceramic urns, which was attested at site F for Hellenistic times, also continued into Roman Imperial times. Against this background, the primary cremation at site F can certainly be defined as 'deviant'.

The above observations reflect a cremation context that is in many ways diverging from what has been accepted as the 'norm' in contemporary Sagalassos: the atypical exposed *bustum*, the 'dead' nails strewn around the remains of the pyre, the 24-brick cover as well as the thick lime 'barrier'. On the other hand, the funerary rites appear to have been executed with care. The deceased received a proper cremation on a pyre, within the necropolis, with appropriate funerary gifts, and possibly wrapped in a shroud and carried onto the pyre on a woven bier. It is dangerous to reconstruct the motivations of the people who at that time carried out these sepulchral sequences, but they appear to have been considerate about providing the deceased with a proper entombment, while simultaneously shielding themselves from any possible harm that the dead body might cause upon the next of kin in particular and the wider community in general. Several aspects of this context – especially the nails and the bricks, but probably also the lime – point to a 'bad death'. The deceased did not die during childhood, but also dying before being married for the first time was considered as an untimely death (*mors immatura*[622]). However, in that case one would expect the magic rituals to be aimed towards the protection of the deceased himself in the Afterlife, which does not seem to be the case here.

historically used as a disinfectant. They also found the three kilns where the lime was produced, as well as a giant bonfire containing human remains, where many of the plague victims were incinerated (online report by Owen Jarus for Live Science, 16 June 2014).

618 Schotsmans *et al.* 2015, 466.

619 *Ibidem*, 465.

620 Morris 1976, 31, 120, 165, 173.

621 Köse 2002; Köse 2005a.

622 Tsaliki 2008, 4. Anastasia Tsaliki mentions seven possible indicators for necrophobia: 1) skeletons with evidence of tied body parts, 2) skeletons in prone position, 3) bodies buried unusually deep in the ground, 4) burials being covered by rocks or other weights, 5) bodies found cremated in an inhumation site, 6) skeletons with evidence of decapitation and 7) burials with evidence of rivets/stakes (Tsaliki 2008, 3 Table 1.2). At least two of those indicators (4 and 7) are directly applicable to the case of this site F primary cremation.

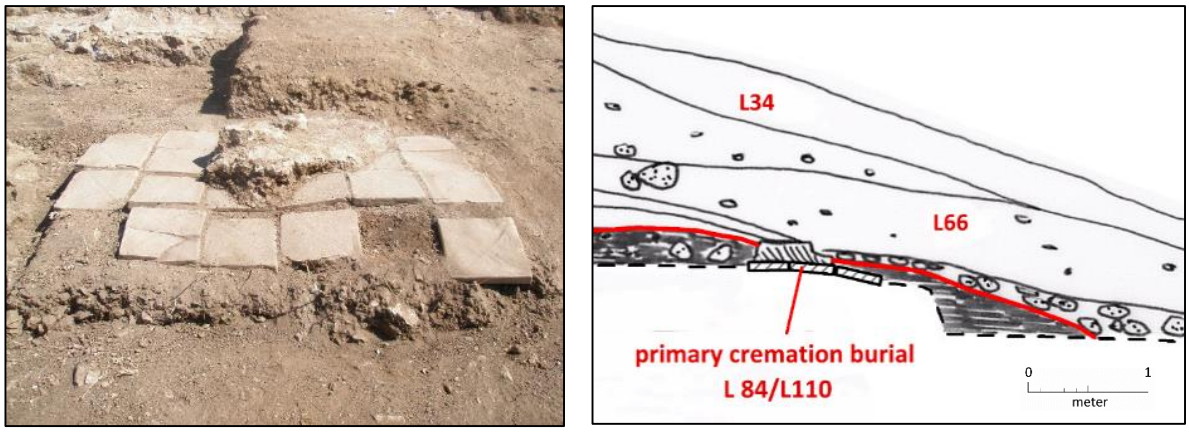

Fig. 6.36 a/b. Left: the layer of bricks was topped by a thick packet of lime, of which in the centre a large chunk was preserved *in situ* (other loose parts were found in the immediate surroundings in the layer topping the burial). Right: detail of the profile drawing across this primary cremation, also showing the thick layer of lime topping the bricks.

This well-preserved context allowed for careful documentation during the excavation process as well as for detailed study of the various remains. The context yielded a variety of artifacts that were deposited there through deviant rituals and actions, thus enveloping mundane household objects (nails and bricks) with a transcendent level of meaning. Whether that added level of meaning should be explained as resulting from magical practices or from a particular set of superstitious (household) rituals remains an open question. Indeed, several aspects that are generally associated with ancient magic are not fulfilled: the observed rituals, for example, do not appear to have been taking place in a particularly secretive, private setting. But considering the hypothesis that these rites had a prophylactic aim, it is more likely that they were condoned within the wider society and that they could be executed in public.[623] The funerary nature of the case study itself might provide us with an additional argument. Fritz Graf mentions how there are two situations in particular in which the ancient people suspected magic and, more precisely, ritual binding: *"disease or sudden death that was medically inexplicable; and unexpected and inexplicable professional failure*".[624] 'Fighting magic with magic' is therefore a tempting deduction, although it is strongly biased by circular reasoning. Both 'magic' and 'superstition' are after all polythetic terms of which the use is debatable in almost all contexts[625] and without any textual backup even a holistic assessment of this case study will only allow for a hypothetical reconstruction of the mindset of the actors involved.

Nevertheless, the *combined* practices discussed above, within their specific historical and regional setting, narrow down the possible interpretations. The combination of elements designed to pin down the dead (nails and stones), with the sealing effect attributed to lime, brings to mind the potential return of a restless dead. Regardless whether the cause for the 'bad death' was a horrendous, mysterious or potentially contagious illness or any other form of punishment for perceived deviant behaviour, it appears to have left the ill-disposed dead hungry for retaliation and, at the same time, the living fearful for contamination.

[623] Wilburn 2012, 17-25; Bremmer 2015.
[624] Graf 1997, 166.
[625] Hanegraaff 2012, 157-173.

6.4.2 Inhumation burials at site PQ 4[626]

The archaeological context

On a vantage point at the eastern edge of the Eastern Suburbium, looking out over Elmalı Pınar and the Ağlasun valley below, a presumed Hellenistic fortified tower was recognized during the exploratory survey campaigns of the Pisidia Project in the late 1980's (site PQ 4, **Fig. 6.37**).[627] The visible remains of the *emplekton* walls, built of roughly shaped polygonal blocks, still stood several meters high at some points. These walls seemed to encompass an area with inner dimensions of *c.* 11.5 m (north-south) by at least 10.5 m (east-west). The site was chosen for excavation in the context of documenting the earliest activities taking place in this suburban area. The excavations soon pointed out that the Hellenistic (or earlier) fortification hypothesis[628] could be dismissed. Instead we are dealing with a burial compound of the Imperial period. This has been demonstrated by both surveys and excavations. The fragments of Early Roman Imperial vase-shaped limestone *osteothekoi*, reused in two of the tombs in this compound, suggest that the very surroundings of PQ 4 already served those purposes at an earlier date. Indeed, the Eastern Suburbium, located at the very edge of the urban texture of Sagalassos (*continentia aedificia*, see Ch. 3) was ideally suited for funerary purposes.

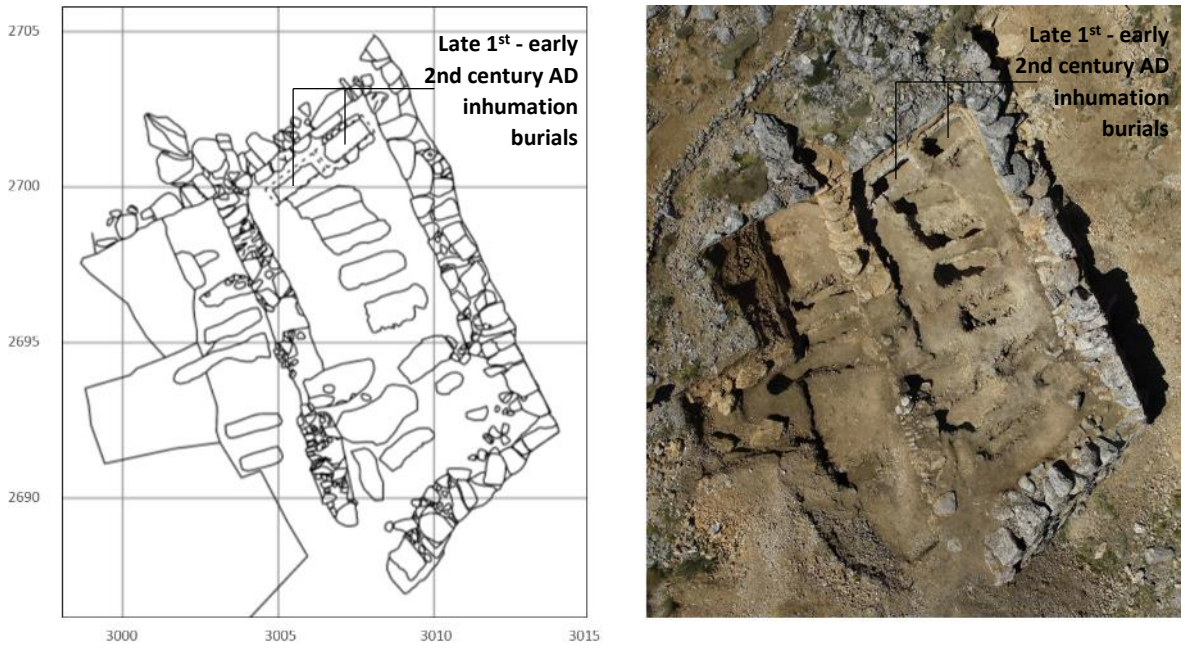

Fig. 6.37. Masterplan and aerial picture of site PQ 4. The burial compound was only partially excavated; it extends in western direction. See Attachment 7 for details.

Most probably in the second quarter of the 2nd century AD this site, with its spectacular views, was chosen for the establishment of two well-built inhumation tombs. Judging by their content and construction technique, the tombs belonged to female members of the middle class. These two tombs appear to have been at the basis of the establishment of the compound. First of all, they were the oldest encountered tombs within the complex based on their content. Additionally, the northern and eastern walls of the compound were clearly planned in consideration of the tombs' position, with the eastern compound wall being built on top of the eastern wall of the eastern tomb (tomb 1). Finally, this same tomb proved to be the 'richest' burial (so far) of the compound, as it included the largest number and most precious grave goods.

[626] Most of the descriptive information mentioned in these paragraphs is taken from the internal 2012 excavation report by Peter Talloen, which has been published in a concise version in the *Kazı Sonuçları Toplantısı* 35, Vol. 2, 250-251 (Turkish).
[627] Mitchell & Waelkens 1988, 60.
[628] Waelkens 2004.

Tomb 1, situated in the northeastern corner of the compound, was a coffin-like tomb of 1.90 m long, 0.60 m wide and 0.60 m deep. It contained the inhumation of an adult female individual, the head oriented towards the east. Its walls were built of mortared limestone rubble and tiles and were plastered on the inside. The tomb was covered with a 0.30 m thick vault constructed of mortared limestone rubble and brick, originally placed on top of a gabled coffering consisting of planks of conifer wood (the negative imprints of the wooden frame were still visible in the plaster). Also the floor was laid out in mortared stones. The skeletal remains were, except for the legs and the head, no longer in their anatomical position but appeared to have been piled up against the centre of the southern wall of the tomb (probably the work of the rodents of which the remains were found as well). Grave goods retrieved from the burial (**Fig. 6.38**) included an imported ceramic *unguentarium*, two glass *unguentaria* (AD 50-350/75 AD[629]; an iron applicator was found in one of them), several worked bone pins (two of which ending in a hand holding an object), a bone spatula, a bone spindle, a bone distaff decorated with the image of Aphrodite *pudica*, two golden triangular earrings with pearl inlays, a silver signet ring with a chalcedony cameo depicting the Muse Polymnia and a broken round bronze mirror, all of which were found in the aforementioned pile of bones. They suggested a tomb dated in the late 1st or early 2nd century AD, corresponding as well to the deposits related to the construction of the whole compound (see further). A radiocarbon date retrieved from the human remains provided a date between 130 and 340 cal AD (95.4 % probability), making a burial date in the second quarter of the 2nd century AD the most plausible.

Fig. 6.38. Some of the content of Tomb 1. After close examination of the golden earrings, it was observed that they could not have served for the living, since they could not be opened. This means they must have been specifically crafted with the intention to bury them as one of the grave gifts.

Tomb 6 was very similar in its layout as tomb 1, constructed immediately to the west of tomb 1, along the northern wall of the compound. This coffin-shaped tomb was 1.92 m long, 0.66 m wide and 0.59 m deep. The construction style was equally similar, though here large roof tiles were used as a floor covering. This burial also contained the remains of an adult female individual, the head oriented towards the east. The remnants of conifer wood and the iron nails found in the tomb suggest that, unlike tomb 1, the body of this woman was interred in

[629] The dates for the glass finds are procured by glass specialist Veerle Lauwers.

a wooden coffin. The skeletal remains were once again disturbed, with many smaller bones piled in a heap on the southern side of the tomb (**Fig. 6.39**). Tomb gifts (**Fig. 6.40**) were limited to a glass *unguentarium* (dated AD 100-300), placed to the left of the deceased, and a bone hairpin. The ceramics retrieved from the fill of the construction pit of the tomb again provided a date at the end of the 1st or first half of the 2nd century AD, which coincides with the proposed date for the *unguentarium*.

Fig. 6.40 (above). The content of tomb 6, clearly more modest than tomb 1.

Fig. 6.39 (left). Tomb 6 during excavation (in the field documentation this burial is referred to as Tomb 6). Notice the 'nest' of small bones that is most probably collected by rodents. View from the west

Tomb 2, finally, was dug as a 1.89 m long, 0.49 m wide and rather shallow 0.52 m deep pit a bit further south in the western half of the burial compound. A wooden coffin had been placed inside the pit as could be told from the retrieved nails. The burial contained the skeleton of an adult female, oriented towards the east and with her hands placed over the pelvis. Two glass *unguentaria* (AD 50-350/75) were present on either side of her head and an imported ceramic *unguentarium* was placed at her feet. The latter suggests a date for the burial in the late 1st or early 2nd century AD.

The compound itself must have been constructed shortly after or together with these two tombs. Within the complex a level surface was created by depositing small limestone chips, resulting from carving out the local bedrock. On top of this a walking level was laid out by using waste material from the potters' workshops (recognisable from the presence of misfired ceramics and numerous kiln spacers). Based on the coins and the ceramic assemblage present in these deposits, this must have occurred during the late 1st or first half 2nd century AD, soon after the burials in tombs 1 and 2. The glass finds encountered within this context appear to confirm this date (25 BC – AD 150). The abovementioned radiocarbon date, however, allows us to put the second quarter of the 2nd century forward as most probable date for the construction of the compound. A partition wall was built on top of the stone fill in the northern half of the interior space, to create different areas within the complex. This was later extended towards the south through the construction of a rubble wall at an unknown point in time.

The funerary plot at site PQ 4 has been labelled as a 'burial compound', *i.e.* a burial plot delimited by a *peribolos* (surrounding wall).[630] There are no indications for and no reason to presume that the structure was completely or partially covered at one point. Tombs within *periboloi* were common throughout Greece and Asia Minor from Hellenistic times onwards. Relevant comparanda can be found in Patara, Phaselis, Adada, Side, Saraycık (ancient Kitanaura), Trebenna and in the Pisidian cities Kibyra, Sia, Termessos and Ariassos.[631] Some burial compounds were aligned along main streets, with relatively low, unimposing walls in a U-shape opening towards the street, and with benches on their inner faces (*e.g.* the Larichos family compound at Assos[632]). This type of compound is less comparable with the PQ 4 funeral plot at Sagalassos. The examples from Ariassos appear to be much more relevant for comparison: these compounds, with high monumental walls only interrupted by a small door, are encountered with no specific order or orientation throughout the Eastern and Northern Necro*poleis* (**Fig. 6.42**).[633]

The PQ 4 *peribolos* was most probably constructed at the same time as the earliest tombs encountered within the burial plot (see above), and was clearly a necessary element of the overall layout and a way to differentiate from the surrounding burial environment. Less than half of the inner surface of the enclosure has been excavated (115 m² of the in total *c.* 250 m²). Due to parts of the standing walls being visible at the surface, it is possible to tentatively reconstruct the western half as well (**Fig. 6.43**). The dividing wall, separating the eastern stretch of 55 m² from the rest of the enclosure, was constructed together with the *peribolos* and was thus planned from the onset. This is where the two oldest burials were encountered. It is not unlikely that there was/were similar dividing wall(s) in the unexcavated western half of the compound, effectively dividing the enclosure into either three more or less equal parts or into more subdivisions. Also a small annex room north of the compound, at a higher terrace, appears to have been constructed concurrently with the rest of the structure. This room remains unexcavated. The walls of this room, built more or less in the centre of the back wall of the compound, must have protruded above the rest of the structure, which would have contributed to its grandeur and visual appeal. If we compare the Sagalassos PQ 4 burial enclosure with contemporary tombs within *periboloi* known from other sites in Pisidia, Pamphylia and Lycia (see above), then the lack of a central, main tomb is striking. Indeed, enough has been excavated of the enclosed space to claim that there never was a monumental tomb in the centre of the compound and it is unlikely that there would have been such a monument located assymetrically in the western half of the compound. In fact, the annex room to the north of the structure might have played this role. Even though the layout would be atypical, the presence of a main tomb for the patron of the complex would make the PQ 4 compound fit better within the existing tradition of burial compounds in Asia Minor.

A burial compound at a prime setting

At first sight the location of this impressive burial monument does not seem to be very prominent. It lies beyond the eastern ridge of the Eastern Suburbium and was probably only partially visible – a side view – from specific points within the quarter (**Fig. 6.43**). Moreover, the roads that are tentatively reconstructed passing the structure are not main passageways; the slopes surrounding the compound on the north, east and south are too steep to

[630] Sarah Cormack points out that the term '*temenos*' is frequently applied by scholars to this type of enclosure, because of the likeness with the religious boundaries surrounding a Greek temple. However, she point out that in ancient epitaphs this term was never used, signifying that the burial enclosures were not viewed as being under the protection of a divinity (Cormack 2004, 29-30). This claim is not completely true, since we know of an inscription from Knidos (no. 301) in which the term '*τέμενος*' is used to describe a burial compound (Köse 2005a, 112). The term '*peribolos*', nevertheless, is not charged with a religious sense (also used for town walls, for example), but rather connotes an embracing, protective space. Cormack goes on to stress that while the resident within a *temenos*, such as priests, are "*distant, separated, perhaps unreachable, or only accessible via an intermediary*", the resident within a *peribolos* "*still belongs to society and the potential for communication still exists*" (Cormack 2004, 29-30). In both the cases of the *naiskos* tomb (see § 7.4.2) as well as in the burial compound at site PQ 4 (see § 6.4.2), the walls surrounding the actual tombs seem to have severely restricted the accessibility of the burial plots. This makes the use of the term '*temenos*' in these cases not unjustified.

[631] Berns 2003, 10-14; Cormack 2004, 30-34; Çevik 2006, 181.

[632] Berns 2003, 10.

[633] Berns 2003, 13.

allow for anything more than footpaths and there are more suitable alternative roads for the heavy traffic leading in and out of the *suburbium*. Nevertheless, the PQ 4 compound itself would have been easily accessible from the west, by the prolongation of a major road that is supported by the terrace wall running north of the east slope workshops and *naiskos* tomb. This road would mount the eastern ridge without steep sections. That road might also have been used as a suitable shortcut from most parts of the Eastern Suburbium for passers-by aiming for Elmalı Pınar valley.[634] Apart from a possible unexpectedly high amount of passers-by, the PQ 4 compound in fact did serve as an impressive vista, not from the Eastern Suburbium itself, but from the Elmalı Pınar valley. Since the PQ 4 compound is the only major monument east of the ridge, it would thus effectively function as the first introduction to the urbanized parts of Sagalassos for travellers coming in from the Ağlasun valley. Indeed, this large burial monument is not randomly located on the eastern ridge, but it appears to be oriented towards the Elmalı Pınar valley and thus to the roads leading through it. The imposing walls would have been visible from afar. When not taking into account high vegetation growth – as is the case nowadays after the recent plantings of pine trees – the monument would actually have been visible as soon as the ridge separating Gökpınar from Elmalı Pınar was reached (a distance of 370 m as the crow flies) and subsequently for the whole stretch of the road leading up through Elmalı Pınar. This makes the burial compound from a seemingly marginal structure of the Eastern Suburbium, to one of the more prominent, location-wise carefully planned monuments east of the city.

The presence of (a) partition wall(s) within the burial compound is uncommon, but not unheard of. Similar division walls have been encountered within a *peribolos* at Anaktorion (Aetolia).[635] From the epitaphs of the tomb of Nanne at Sia, a Pisidian site where the barrier between the space of the living and the dead is particularly diffuse, we learn that various areas of the tomb enclosure were reserved for particular family members. The same applies for an inscription dedicated to the burial enclosure of Trokandas in Saraycık.[636] Epitaphs that can be associated with *periboloi* in Asia Minor have generally been associated with the wider *familia*e[637], but elsewhere in the Roman Empire it is obvious that alternative systems of euergetism, such as the *collegia*, could erect similar compounds. In that case the people buried within the plot were not linked through familial bonds, but through (a combination of) religious, territorial, ethnic, social or professional bonds. The evidence from the PQ 4 burial compound seems to favour an explanation based on familial bonds. DNA-samples taken from human remains encountered at various sites in Sagalassos, among which several Eastern Suburbium sites, have been used to compare maternal genetic variation in an attempt to reveal the demographic history of Sagalassos.[638] When plotting the results according to haplotypes on the map of the PQ 4 site, three separate spatial groups of burials can be determined, which, given the enclosed nature of the burial site, suggests (maternal) relationships between the different individuals.[639]

The only two excavated tombs that can be linked with the original building phase contained two women. *Collegia* consisting entirely of women were very rare and although close family members of *collegia funeratica* probably also earned the right to be buried in an associative compound, the lack of any men encountered within the eastern half of this large burial plot seems to suggest that we are not dealing here with a *collegium*. Indeed, if we were indeed dealing here with an association capable of erecting a compound of this size, many more contemporary and 2nd century AD burials would be expected. The investment in the construction would only

[634] From the centre of the Eastern Suburbium (north of the coroplast workshops) it takes *c.* 355 m via the PQ 4 Compound and *c.* 505 m via the main road through the Central Depression to reach the mutual intersection at the head of the Elmalı Pınar valley. This shortcut might only have been convenient in downward direction, since it involves a very steep stretch east of the PQ 4 site.

[635] Berns 2003, 11. The Anaktorion enclosure is published in *Archaiologikon Deltion* (ADelt 34 B, 1979, 438 ff).

[636] Cormack 2004, 32-33.

[637] The funerary inscriptions of Asia Minor have been studied by Jadwiga Kubinska (Kubinska 1968), who listed 23 epitaphs that contain the word '*peribolos*' (which was the normal term in ancient inscriptions to refer to a burial compound, see also Footnote 630). Most of the inscriptions date to the 2nd and 3rd century (Cormack 2004, 30-34).

[638] Ottoni *et al.* 2016.

[639] Personal communication with Peter Talloen.

have been justified if it would translate into a more full coverage of the available space. However, here we observe that at least the eastern half of the compound was left relatively untouched for more than a century prior to full occupation (see § 8.4.4). Also the burial gifts encountered inside the eastern tomb suggest that the woman had a relatively affluent background (**Fig. 6.38**). Other explanations cannot completely be excluded, *e.g.* an identification of the women as patronesses of a *collegium* or the total annihilation of traces of other burials (*e.g.* cremation urns that were not buried but remained exposed at the surface), but they are far less likely.

Subsidiary structures present within burial compounds in Asia Minor, either encountered in excavations or based on the visible remains, suggest that the enclosed area was also used for ritual activities (*e.g.* banquets), sculptural and other decorative display and additional burials. Funerary inscriptions show, moreover, that tomb gardens were a very common phenomenon within *periboloi*, to the extent that the presence of a garden might have been a main purpose to be associated with burial compounds. Investigating ancient gardens is a very difficult endeavour and in most cases we have to rely on the plentiful textual evidence (inscriptions and ancient authors) to learn about these practices. "*Gardens were a fundamental component of daily life for the ancient Romans. As such, it is therefore not surprising that aspects of nature were incorporated into the monuments of the dead*", as stated by Virginia Campbell.[640] In fact, the *cepotaphion* (garden-tomb) is most likely originating from Ptolemaic Egypt, showing the spread throughout the Roman Empire of originally oriental ideas about the funerary practice.[641] The presence of a garden should be understood in the first place as an attempt to provide both the deceased and the living with pleasant surroundings (*locus amoenus*). However, the garden could also have an economic value, if fruit trees or vegetables were planted in the enclosure, if firewood or reeds could be recuperated or if a well could be exploited. The surviving family or club members would be responsible for tending the garden and would be the recipients of the produce. However, the possible gain from selling the garden products was in many cases reserved for the maintenance of the tomb complex itself, as is specifically stated in various epitaphs. The cepotaphion was supposed to be able to pay for itself.[642]

It is worth mentioning that also in ancient times space was not unlimited, and agricultural fields in the *suburbia* of the city would have been valuable because of their easy accessibility and the proximity of the markets. As we have already discussed in § 5.2, the original purpose of the terracing in the Eastern Suburbium of Sagalassos was most likely to be related to agriculture. The ongoing presence of *horti* in these suburban quarters is thus no less than a continuation of a tradition (and possibly also a necessity), despite the rapid infrastructural development of the area. Even though it is not possible to prove that the burial compound at site PQ 4 was indeed fitted with a garden, it seems very likely. Apart from the two oldest tombs, no subsidiary structures have been encountered in the eastern half of the enclosure that can be linked with the earliest phase of use of the compound. The available open space was considerable in size and the shelter provided by the high walls would take some of the edge of more severe weather conditions.

According to Christof Berns, the purpose of these burial compounds was above all to create a ritual space. In doing so they did not differ in principle from more modest contemporary burial sites of the period.[643] Also the presence of a garden was certainly not reserved to walled tomb enclosures. We are probably dealing here with a contemporary fashion in socially distinctive tomb design, where the wealth is expressed by sheer size and monumentality, rather than by refined decorations and exotic materials. A similar, even larger walled burial plot (*c.* 720 m²?) is tentatively suggested west of the PQ 2 *schola*, where it would occupy a likewise prominent location along the main road leading in from the city centre. A date around the middle of the 1st century AD is as tentatively proposed for this structure, based on its similarities in location and orientation with the neighbouring *schola*. The sizes of these plots would indeed only have been possible in a still developing suburban quarter. It is

[640] Campbell 2008, 42.
[641] Toynbee 1971, 95; Purcell 1987a, 32.
[642] Purcell 1987a, esp. 32-35; Cormack 2004, 31, 34-35; Campbell 2008.
[643] Berns 2003, 14.

probably no surprise that burial plots that are dated later (site F, site D, *naiskos* tomb, see § 6.4.3, § 7.4.2 and § 7.4.5) are of smaller sizes, when the competition for space would have been more fierce.

Fig. 6.41. The back wall of the PQ 4 compound is the best preserved part of the struture. The polygonal masonry appears to have been employed consistently throughout the *peribolos*, even though rock-cut parts might have been used in the not excavated northwestern stretch of the back wall.

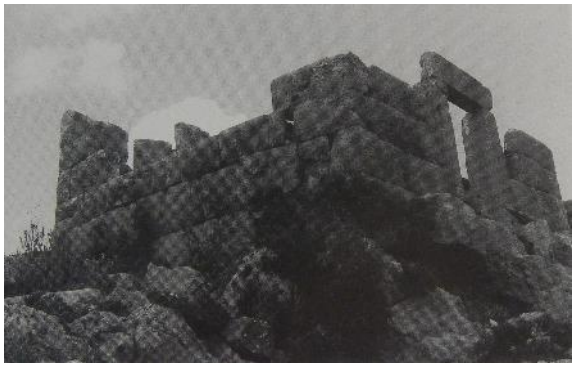

Fig. 6.42. Burial enclosure at Ariassos. The structure appears to be constructed in a more regular pseudo-isodomic masonry with ashlars with a pulvinating profile. From Berns 2003, Tafel 24, 4.

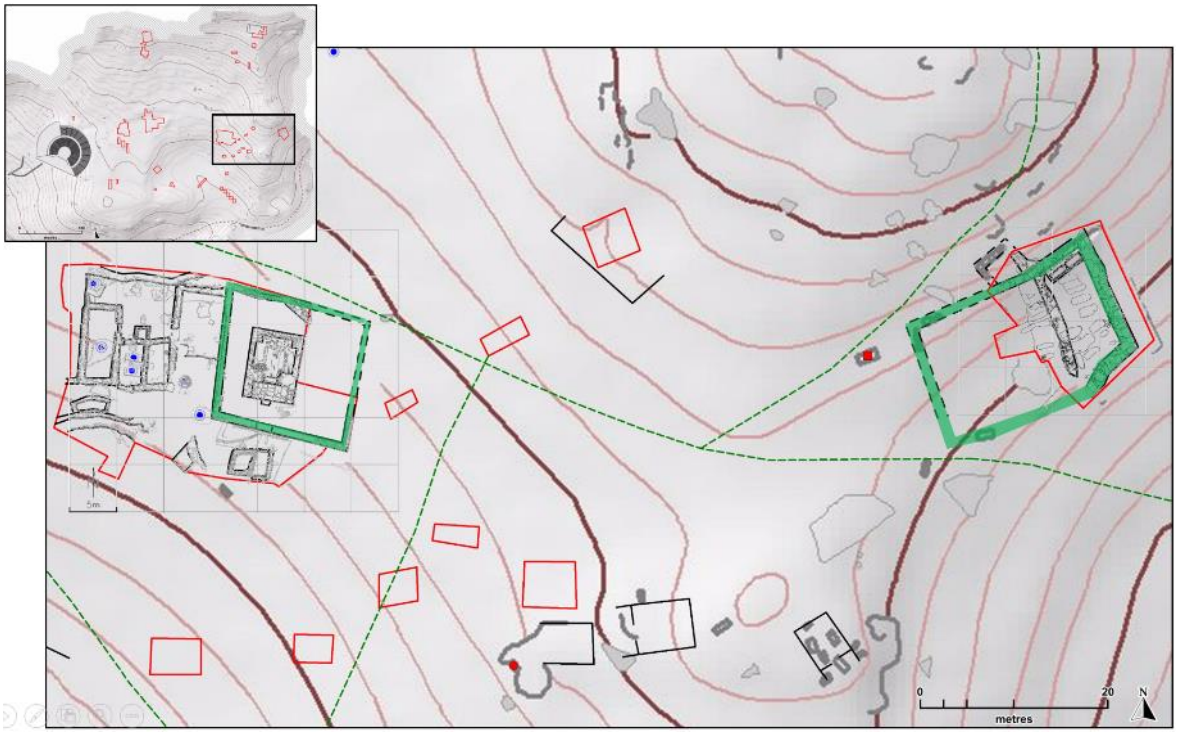

Fig. 6.43. The PQ 4 burial compound within its wider environment, with indication of the excavation trenches (red), ancient structures (black), an *arcosolium* (red circle), *sarcophagus* (red square) and with a tentative reconstruction of the passing road network (dashed green lines). The reconstructed *periboloi* of both the *naiskos* tomb (left) and the PQ 4 burial compound (right) are indicated in green. Remains visible at the surface allow us to tentatively reconstruct the PQ 4 compound as encompassing a plot measuring *c.* 20.5 by 14 m.

6.4.3 Vaulted family tomb at site F[644]

The interior of the vaulted family tomb (**Fig. 6.44**), situated in the centre of the upper trench at site F[645], was already excavated in 1990. The scattered remains of at least seven individuals could be collected and examined. The associated finds made it possible to date these remains to the 4th century AD. However, through careful observation of the stratigraphical relations between the tomb and its surroundings an earlier date for the construction of the burial monument itself could be suggested (see further). The outer dimensions of the rectangular tomb measure 3.7 by 3.0 m; the inner dimensions 2.8 by 1.95 m. The whole construction, including the vault, is made of mortared rubble (mainly limestone, few brick fragments). Half of the vault is still standing, to a height of 1.9 m above the original floor level. As with the adjoining monument, the foundations were laid out in a trench dug in the (sloping) natural substrata. These foundations reached deeper than the adjacent ashlar structure. Not surprisingly, since it was the intention to withdraw most of the construction from view. Only the entrance and the roof would have been visible and accessible.

A sounding along the outer west wall exposed a completely irregular face; the wall was clearly built against the profile of the newly dug foundation trench (while the east wall made use of the already erected ashlar monument to the east). The regular facades of the walls were reserved for the interior of the tomb and the upper part of the front wall with the entrance. The door opening towards the tomb was no more than 0.50 m wide and probably not much higher than that (the threshold still lies *in situ*, with pivoting holes indicating the exact width). The roof was originally covered with large, square *tegulae* (roof tiles, measuring *c.* 0.45 by 0.45 m). No *imbrices* were preserved *in situ*. Remarkably, on top of these roof tiles, the roof was covered with dozens of large pottery sherds of storage vessels, positioned with their concave faces towards the roof and imbedded in mortar (Fig. 6.47). What the purpose was for such a feature could not yet be established.

A low wall springs westwards from the southwest corner of the vaulted tomb, continuing beyond the western profile of the 2012 excavation trench. This wall was constructed simultaneously with the tomb itself, making it possible to identify it as the *peribolos* wall of the respective vaulted tomb, surrounding the *temenos* (burial plot).[646] The western limit of this presumed *temenos* wall lies outside of the excavation trench. However, the discovery with georadar of another, similar construction (probably another tomb) 17 m west of the excavated vaulted tomb gives us a clear maximum extend in western direction. This dry wall was constructed of small and middle sized limestone rubble. Few stone rows are preserved, but even originally it probably would not have exceeded waist height. It clearly did not have a retaining function as terrace wall and only served to designate the extent of the *temenos* belonging to the vaulted tomb.

Several finds made in 2012 the immediate surroundings of the tomb appeared to date its construction to as early as the 2nd century AD, which was confirmed after a restudy of the original 1990 find assemblages from the surrounding layers and the lower fill within the tomb.[647] One specific context gave a more solid indication: the *temenos* wall of this tomb must have been constructed before the 2nd century AD, based on the feasting remains buried in a pit abutting this wall (see § 6.4.4). This also pushes back the construction date of the tomb itself. The large pottery sherds used on top of the roof could be dated mainly to the 4th century AD (the human remains collected from the interior in 1990 were dated to the 4th century AD as well). Most likely the existing tomb was

[644] The 1990 excavation of the tomb is published in *Anatolian Studies* 41 (Waelkens *et al.* 1991a, 197-214). Additional information mentioned in these paragraphs is taken from the internal 2012 excavation report by Johan Claeys, which has been published in a concise version in the *Kazı Sonuçları Toplantısı* 35, Vol. 2, 248-249 (Turkish).

[645] For an introduction to site F, see Ch. 5.

[646] This modest, low *peribolos* wall can hardly be compared to the monumental walls encompassing the PQ 4 compound (see § 6.4.2). To distinguish this site F burial compound from the PQ 4 compound, we use the term '*temenos*' to describe the plot (see Footnote 630 for a discussion on the terminology).

[647] Personal communication by Sam Cleymans and Jeroen Poblome, who restudied the material in the November 2015 study campaign.

usurped in the 4th century AD. It is unlikely that any of the human remains encountered inside belong to the original phase of use, since no finds inside predate the 4th century. The original human remains must have been removed and – in the best case – redeposited in secondary position elsewhere (*e.g.* in a container in the niche in the terrace wall northeast of the tomb?).

Fig. 6.44. View from the south on the burial chamber of the vaulted family tomb of site F, northern trench. The picture is taken after the re-excavation of 2011; parts of the inner division of the room, recognised when excavated in 1990, are no longer preserved (see § 7.4.5 for more detail).

Fig. 6.45. View from the west on the roof and outer wall of the vaulted tomb at site F, as excavated in 2012. Remarkably, the tiled roof was covered with a layer of large pottery sherds set in mortar (see also Fig. 6.46 and Fig. 6.47). The outer wall did not have a facing; it was erected against the side of the foundation trench. The roof itself must have touched the ground.

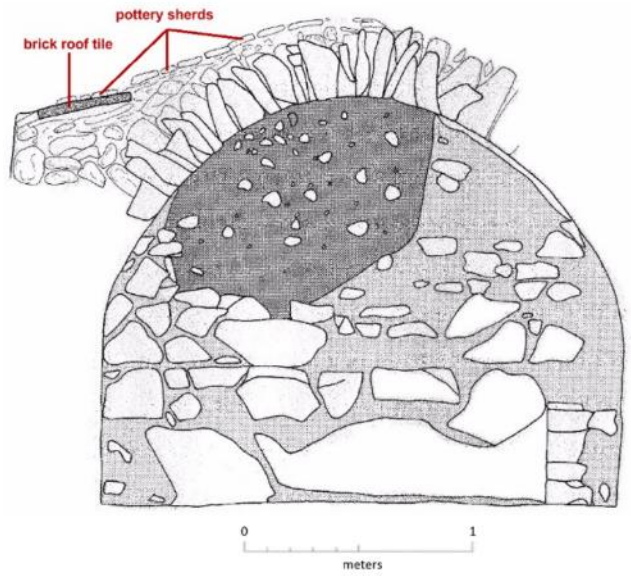

Fig. 6.46. Cross section of the vaulted family tomb at site F. The roof structure is built up by a vault constructed of limestone unworked stones, a mortared rubble fill, a cover of brick roof tiles and an additional layer of large pottery sherds (see also Fig. 6.45). Drawing by Marc Lodewijckx and Peter De Jonghe.

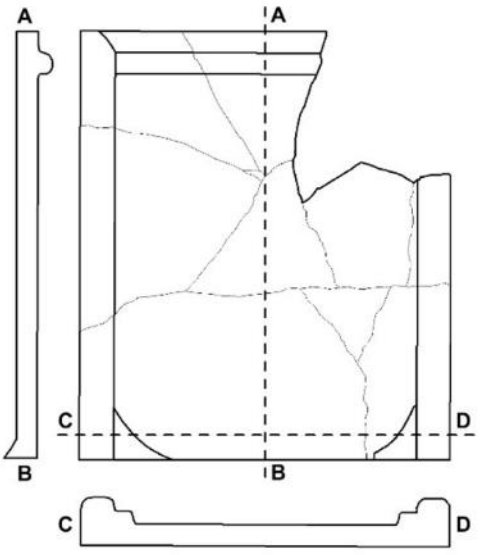

Fig. 6.47. Drawing of one of the roof tiles used in the construction of site F's vaulted tomb. The tile measures 49 cm in length. Adapted version of original 1990 field drawing (by anonymous).

6.4.4 Funerary feasting activities[648]

The archaeological contexts

At three different spots within the upper trench of site F concentrations containing pottery sherds were documented (**Fig. 6.23**). The concentrations were encountered in (shallow) pits that in each case held hundreds of broken and/or burnt ceramics, belonging to dozens of vessels.

Behind (north of) the vaulted family tomb, pottery was collected from a superficial pit, no more than a few cm deep. The sherds were very fragmented and 'violently broken', giving an indication that they might have been thrown in the fire before being deposited. These remains could be dated to the second half of the 1st century AD. This feature could also be associated with the same sloping walking level that contained the (fire) pit containing secondary cremation remains situated to the southwest (see § 6.4.1) and which contained cremation remains and mainly Hellenistic sherds. This does not automatically prove contemporaneity, but rather shows that this particular walking level remained open for a long time, which would also explain the younger, intrusive material that was found in association with the secondary cremation (located at a lower level).

Abutted against the wall that serves as the *temenos* of the vaulted family tomb, a small but rather deep pit was dug to dump ceramic waste (**Fig. 6.48**). Hundreds of pottery sherds lay strewn on the bottom and along the sides of the pit. The remains were dated to the end of the 1st or early 2nd century AD, giving a *terminus ante quem* for the construction of the wall and the adjoining family tomb (see § 6.4.3).

A third pit was dug immediately in front of the western bench of the Hellenistic burial monument (**Fig. 6.49**). This pit was no more than 10 cm deep, but once again containing hundreds of (burnt) pottery sherds. This context, dated to the full 2nd century AD, could be associated with a walking level that concurred with the threshold of the vaulted family tomb and that postdates the Hellenistic burial monument (see § 5.4.4).

Fig. 6.48. Profile on the pit abutted against the wall encompassing the *temenos* of the vaulted family tomb. This context was dated at the end of the 1st or early 2nd century AD.

Fig. 6.49. Profile on the clearly burnt feasting remains inside a shallow pit dug in front of the bench of the Hellenistic burial monument. In the background the vaulted family tomb is visible

[648] The descriptive information mentioned in these paragraphs is taken from the internal 2012 excavation report by Johan Claeys, which has been published in a concise version in the *Kazı Sonuçları Toplantısı* 35, Vol. 2, 248-249 (Turkish).

Discussion

Many of the vessels are very fragmented, but completely reconstructable; a lot of the sherds are burnt. The find spectrum of these concentrations clearly shows that they do not result from workshop or household refuse. More detailed material study is necessary, but the majority of the ceramic finds originated from table wares, a minority from cooking wares. Both misfired pottery and kiln waste are completely absent and there is only very limited interference from other find categories. Also the features themselves do not bear any similarities to any of the actual dumps documented on this and other sites in Sagalassos. In the case of 'regular' dumps, no effort was made to dig a hole; the waste was simply dumped on the surface in not-occupied open spaces, against walls, in abandoned plots, *etc.* (see § 11.2.2). These dump context eventually show up in the archaeological record as eroded layers with a loose compaction and generally a lower density of finds. The assemblages of finds in the site F concentrations, however, are small, deposited in a pit, very compacted and with a high find density. The fragmentation rate seems higher than other dump contexts, which suggests that the vessels were intentionally shattered. In two cases the pit was still lined (**Fig. 6.48**) or filled (**Fig. 6.49**) with charcoal, suggesting that the pottery waste was dumped in a fire pit.

Both the archaeological context as well as the material study confirm the identification of these assemblages as resulting from meals prepared and held at the spot. We should try to understand and explain these meals within their wider setting. The upper terraces of site F have been continuously in use for burials, starting from the Hellenistic period onwards to at least the 4th century AD. Even if the burials and monuments were overgrown, in decay or set in a garden environment (see also § 6.4.2 and § 7.4.10), the funerary nature of the surroundings would still have been obvious to the visitor. Indeed, the vault of the family tomb at the site was even visible in modern times, leaving little doubt as to its original purpose, and the ancient inhabitants of Sagalassos were obviously more acquainted with their own *necropoleis*. The walls on the site that did not serve as terrace walls were clearly erected with the intention to mark individual plots, such as the low fencing wall in line with the vaulted family tomb and possibly also the perpendicular wall in the northeast of the excavation trench. The terrace walls themselves divided the slope in stretches of land that were easily divided into plots of more or less standardised sizes. Thus the participants in the meals must have been aware of the sepulchral setting of their 'banquets' and probably also knew whose plot they were occupying.

A similar context might have been uncovered during the 2012 trenches dug at site PQ 3. The three central trenches of 5 m by 5 m covered parts of a large burial compound with a monumental tomb in the centre (see § 7.4.3). In the immediate surroundings of the tomb a large assemblage of ceramic sherds – many of which are reconstructable – and some faunal remains were encountered in the layers that accumulated around the lower courses of the tomb. The ceramics were dated to the 2nd and 3rd quarters of the 2nd century AD and were preliminarily identified as remains of waste dumping.[649] However, it is very likely that we are dealing here with a context not unlike the site F funerary meals described above. Indeed, an open air hearth was found nearby on top of the 2nd century AD walking level. It is unlikely that this tomb and its surrounding *temenos*, which was most likely constructed in the late 1st or early 2nd century AD, was already abandoned in the 2nd century AD in order for the compound to be used for waste dumping. The eventual deconstruction of the building did not start until the 4th or even 5th century AD. The material from this context falls within the same time frame as the third pit with meal remains described above and is thus an ideal assemblage for comparison.

Romans were very familiar with outdoor dining, both in public and private contexts[650], and funerary settings did not form an obstacle.[651] On the contrary, burial plots could be equipped with their own dining arrangements, including benches, wells and possibly a corner for barbequing. Tombs were often set in a garden environment,

[649] Murphy 2012, internal excavation report.
[650] Smith 2003, 73; Ascough 2008, 33-34; Campbell 2008, 41-42.
[651] Toynbee 1971, 95; Dunbabin 2003, 103-140; Hope 2009, 85-88.

which would definitely have contributed to the pleasantness of the event.[652] "*The bereaved could visit tombs, make offerings to the dead and also dine and picnic with the dead at certain festivals or on personal anniversaries*" in the words of Valerie Hope.[653] Obviously, dining arrangements that are preserved to the current day are to be associated with more lavish tomb complexes. Similar equipment might have been made with movable, wooden furniture as well, but in the end a picnic blanket would have been all it took in the more modest contexts. The improvised fire pits at the site suggest that the latter was most probably the case in the site F funerary meal contexts. Examples are known of funerary plots that had arrangements to tap into a passing aqueduct.[654] In the case of these site F burial plots, an aqueduct passes at no more than 15 m to the south. The Eastern Suburbium stretch of the aqueduct is subterranean, but it cannot be excluded that somewhere along these funerary terraces the water might have been made accessible specifically for this purpose.

Roman traditions knew several occasions in which the dead could be commemorated with rituals (and meals?) at the tomb, the first one being the 'ninth-day feast' concluding of the period of full mourning. There were also yearly festivals that involved rituals celebrating the ancestors.[655] Even if the people from Sagalassos would have stuck to their own ritual calendar, it is very likely that this also included yearly festivals to honour the deceased. The find contexts at site F are a clear indication that at least part of these celebrations, including the meals, took place at the tomb itself. These three contexts appear to be consecutive in time (roughly coinciding with the period 50-200 AD). The amount of pottery present in the concentrations suggests that each single context does not contain the remains of more than one event. Though the total amount of pottery encountered clearly does not account for 150 years of yearly activities, it has to be kept in mind that the burial plots have only been partially excavated at site F. Rather than trying to explain the possible deficit in ceramic remains, we should answer the question why it is left behind at the burial plot. Remains from communal meals have also been encountered in an associative setting at the PQ 2 *schola* (see § 7.5.2), but there are clear differences. The dump east of the *schola* resulted most probably from accidental breakage of vessels during a long series of regular activities. The dump encountered within the *schola* contained the complete remains of one single banquet, intentionally deposited and buried inside the rooms after a ritual event that most probably should be linked with the abandonment of the building (see § 7.5.3). A completely different explanation might apply to the site F remains of funerary meals. According to Valerie Hope, when describing Roman funerary feasts, "*food and drink given to the dead could also be viewed as polluted, and the living were not supposed to eat it, although the offerings might still be a source of temptation for the hungry homeless.*"[656] These taboos were not exclusively Roman, and it is thus easily conceivable that the vessels used for the funerary meals would become associated with this pollution as well and would end up as unsuitable for use in the domestic atmosphere. Instead, they would be intentionally broken and buried or discarded into the fire pit at the conclusion of the rituals.

These site F contexts might shed some light into a raging controversy concerning the interpretation of the 'funerary banquet' leitmotif. The so-called '*Totenmahl*' is a common theme in figurative funerary scenes, spread through many cultures and over millennia of history.[657] Its meaning, however, is heavily debated, and has been so for more than two centuries.[658] In general, three possible interpretive paradigms of the 'Totenmahl theme' are proposed: 1) the eschatological or afterlife paradigm (the banquet images show the deceases banqueting in a happy afterlife); 2) the funerary-ritual paradigm (the images show a funerary or mortuary feast of the family, with or without the participation of the deceased) and 3) the social-historical paradigm (the images show ideals

[652] Purcell 1987, 32-35.
[653] Hope 2008, 86-87.
[654] Cormack 2004, 31.
[655] Dunbabin 2003, 103-140.
[656] Hope 2009, 86-87.
[657] For example, the 2010 symposium *Dining & Death* held at the Ionnou Centre for Classical and Byzantine Studies at Oxford welcomed scholars from Egyptology, Near Eastern Archaeology, Classical Archaeology and Chinese Archaeology.
[658] Dunbabin 2003, 108.

relevant to the lives of the deceased, either purely aspirational or actual).[659] Recently, commentators tend to stress that the longevity and the wide diffusion of the theme among a wide variety of cultures and creeds, should in itself be regarded as arguments against any single assumption. Nevertheless, for a provincial Hellenistic-Roman town in Pisidia, a single paradigm might in fact lure behind this custom. In this regard, it is telling that Johanna Fabricius, author of the authoritative *Die hellenistische Totenmahlreliefs*[660], favours the third type of interpretation because of a perceived lack of written and archaeological sources supporting the other options in the Anatolian case studies. The site F funerary meal contexts in the Eastern Suburbium of Sagalassos offer clear archaeological evidence for the practice of ritual meals at the tomb, indicating that the funerary-ritual paradigm describes a very real event which obviously would have been translated in funerary art. This does not dismiss the other potential explanations, especially since by Roman times the already existing motif was considered as appropriate for a funerary monument in its own right. Another aspect might lie in the implicit association between the (reclined) banquet and a life (and death) of status, pleasure and luxury. Catherine Dunbabin further concludes: "*Indeed, the motif's appeal may have been due, in no small part, precisely to its ambivalence and lack of a single, clearly definable content; it was open to observers to interpret it as they thought fit, according to their cultural predispositions or their own individual preferences.*"[661] With the site F data in mind, however, it seems obvious that in the case of Sagalassos the observers would link the image with their own well-established traditions of funerary meals at the tomb, which was certainly not exclusive to an elite lifestyle.

[659] Draycott 2010, 2; Dunbabin 2003, 108.
[660] Fabricius 1999 (*non vidi*).
[661] Dunbabin 2003, 108-109.

6.5 A monumental quarter within the Eastern Suburbium

The southwestern part of the Eastern Suburbium, delimited in the west by the Theatre, in the north by the artisanal workshops, in the east by the Central Depression and in the south and southwest by steep cliffs, forms a distinguishable entity within the quarter. The area is characterised by the flatness of the terrain. At the surface only few architectural remains can be recognised, but the geophysical survey of the area resulted in a fairly detailed plan (**Fig. 6.50**), which was generated from seismometric-magnetometric data.[662] Remarkably and quite in contrast to the rest of the area, is that all structures follow the same NNE-SSW orientation (apart from some Late Roman – early Byzantine interventions, see § 9.2.2), suggesting a certain level of planning in the layout of this quarter.

6.5.1 The complex at site G

The archaeological context[663]

Most prominent within this quarter is an arrangement of spaces around an open, unpaved yard, with several additional structures flanking to the west, south and east (**Fig. 6.50**).[664] Based on the geophysical results, the area was preliminarily identified as a possible *gymnasion* (see further) and most of the project's documentation since has carried this denomination. In the discussion below we will advocate that it there are other, more probable identifications for the site G complex, most of which include characteristics generally attributed to the term '*campus*' (see further).

In 2004, five test trenches were dug in order to evaluate the '*gymnasion* hypothesis' (**Fig. 6.50 b**).[665] The archaeological results confirmed the presence of all walls identified by the geophysicists, but could not give any conclusive proof for the identification of the complex. All walls associated with the original building phase consisted of mortared rubble walls, that were constructed in a neat fashion. The northern exterior wall of the complex was 0.93 m wide and stood on top of a 0.78 m high foundation wall[666] protruding 0.25 m from the inner face of the wall; the southern exterior wall was completely dismantled, leaving the 1.18-1.27 m wide foundations exposed. Perpendicular, interior dividing walls were respectively 0.63 m and 0.83 m wide and stood on 0.55-0.65 m high, more slightly protruding (0.10-0.15 m) foundations (**Fig. 6.51**). The continuous north wall spanned several adjacent spaces, which were mutually separated by equally well-built and interlocking lateral walls (**Fig. 6.52**), strongly suggesting that the area was not occupied by small, individual structures, but that it was most likely conceived from the onset as a single complex. The east-west oriented wall encountered in the southern trench 4 was identical in width and building style with the northern enclosing wall, an observation also made by the excavators; this is probably the continuation of the same wall, forming a perimeter around the complex. Additional ground penetrating radar (GPR) data, gathered in 2012 from the northeast and southeast corners of the complex, provided more detail on the subdivisions of the complex and confirmed the advanced level of homogeneity between the multiple rooms (**Fig. 6.53**). At least fourteen individual spaces could be identified: seven along the southern edge of the complex (one of which subdivided into two rooms), four or five in the northeastern corner and a few larger rooms along the northern edge. Since the GPR results showed details in the subdivision of spaces that were not visible on the magnetometric map, it is possible that a more intricate subdivision into individual spaces should be imagined along the western edge of the complex as well.

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[662] The geophysical survey (both the magnetometry as well as the GPR) was done by Branko Mušič and his team from the University of Ljubljana.

[663] Most of the information mentioned in these introductory descriptive paragraphs is taken from the internal excavation report by Peter Talloen, which has been published in a more concise version in the *Kazı Sonuçları Toplantısı* 27, Vol. 2, 279-280.

[664] One of these additional structures is still partially visible at the surface, northeast of the central building: this 8,6 m by 5,9 m large building appears to have a temple-shaped plan (*in antis*) and has since been identified as a 'shrine'.

[665] The description of the so-called *gymnasion* is based on the internal report by Peter Talloen (2004). These preliminary results are also concisely published in the 2005 *Kazı Sonuçları Toplantısı* (Waelkens (ed.) 2005, 279-280).

[666] As a comparison, the foundations of the PQ 2 *schola* (see § 6.5.2) – constructed around the same time and in a similar building style – are 0.95 m high.

Fig. 6.50 a/b. The geophysical survey results plotted on the map of the Eastern Suburbium. On the left: indicated in the black rectangle is the largest complex in the southwestern quarter of the Eastern Suburbium. On the right: the interpretation when combining the seismometric-magnetometric map with the results from ground penetrating radar surveys (blue) and excavations (five test trenches in red). See also Fig. 6.53.

Fig. 6.51. Northwestern test trench at site G, view from the north on the interior partition wall, while the exterior wall of the complex is visible in the forefront.

Fig. 6.52. Northeastern test trench at site G, view from the south on the profile underneath the Late Roman or early Byzantine rubble 'wall' (probably rather an enclosure).

The central arrangement of rooms measured *c.* 66 m north-south by *c.* 41.5 m east-west, covering a surface of *c.* 2,800 m². The open space in the centre (measuring *c.* 1,350 m²) was lined with rooms to the north, south and possibly west. Several one-room structures to the west and northwest might not be part of the main complex, even though they closely follow the same alignment. Similarly, several parallel walls were identified to the south as well. The whole area that is covered by structures with an identical orientation amounts to *c.* 6,560 m². There

are no indications for rooms or additional structures west of the building. This is fairly odd, since other parts of the Eastern Suburbium appear as densely built areas where there was a high competition for space, even where the terrain was not level. There must have been a reason why this part of the *proasteion* remained an open space. The subdivision within the Eastern Suburbium of an actual (semi-)public 'monumental' southwestern quarter must have gone hand in hand with invisible but very real territorial borders.

Judging from the associated archaeological finds encountered in the 2004 test trenches, the foundations and remains of standing walls (plinths for mudbrick walls?) encountered in the three northern trenches were constructed around the late 1st or early 2nd century AD. Despite the lack of dateable material, a similar date was proposed by the excavators for the perimeter (?) wall encountered in the southern trenches, based on the similarities in its construction and in its stratigraphical position. Neither the standing remains nor the archaeological layers associated with the building's phase of use gave any indications regarding the layout of the original floors, wall decoration, and type of roofing. There were no other substantial finds (inscriptions, furniture, *etc.*) that could have shed light on the identification of the building. A 0.20-0.25 m thick layer was interpreted as the original underlying floor substratum, which suggests that there originally might have been a more substantial floor (brick or stone slabs?) that was removed after the building was abandoned (see § 8.5.2). Ceramics from this layer were dated to 125-150 AD.

Discussion 1: a *gymnasion*?

Despite the limited archaeological evidence, it may be clear that we are dealing here with a complex that stands out within the Eastern Suburbium. The used building techniques and regularity of the stonework is only matched by other (semi-)public buildings within the *proasteion*, such as the PQ 2 *schola* (see § 6.5.2) and the large building bordering the PQ coroplast workshops (see § 6.5.3), while the sheer size of the complex and its surrounding 'dependencies' is unmatched in the area. The local topography would indeed favour a large public building project. There are only few other areas within the Sagalassos city centre and the immediate extramural zone that offer a large and uninterrupted more or less flat terrain (areas with slopes below 10 %), and none of them offer the same uninterrupted surface as the southwestern quarter of the Eastern Suburbium: the Lower Agora area measures *c.* 1,550 m², the Upper Agora area *c.* 2,500 m², the Eastern Suburbium's Central Depression *c.* 5,600 m², the Roman Baths (including artificial terraces) *c.* 6,150 m², the Stadion *c.* 6,950 m² and the temple compound dedicated to Antoninus Pius *c.* 8,050 m². The southwestern quarter of the Eastern Suburbium, however, covers *c.* 10,900 m². Within this available space all equally oriented infrastructure covers a surface of *c.* 6,560 m². The immediate proximity of a major spectacle building (the Theatre to the west) shows that the Sagalassos *proasteia* – or rather *suburbia* in general – were certainly not regarded as unfit to host public architecture. On the contrary, more often than not theatres, *stadiai*, *palaistrai*, bath complexes, large temple complexes, *campi* and sometimes *gymnasia*i were confined to the outskirts of the cities.[667]

The biases inherent in geophysical surveys, combined with the observation in the test trenches that the whole complex was thoroughly stripped, makes a definite identification of the complex difficult. The eastern wall of the complex, for example, is not silhouetted clearly on the geophysical map, but a double row of walls is suggested (**Fig. 6.50 b**). Their intermediate distance is similar to the depth of the rooms north and south of the complex, but the geophysical surveys did not provide any indications for a subdivision into different spaces. Maybe we should imagine a *krepidoma* and back wall of a portico on this side of the complex?

[667] The three Classical Athenian *gymnasia*i – the Cynosarges, the Lyceum and the Academy – were all located outside of the city walls. Even though later Hellenistic and Roman Imperial *gymnasia*i would increasingly be associated with the civic centres, space constraints within the city walls would remain a major factor for their peri-urban allocation (see Thomas R. Henderson's entry '*Gymnasium*: Architecture' in Gagarin & Fantham (eds.) 2010, 369).

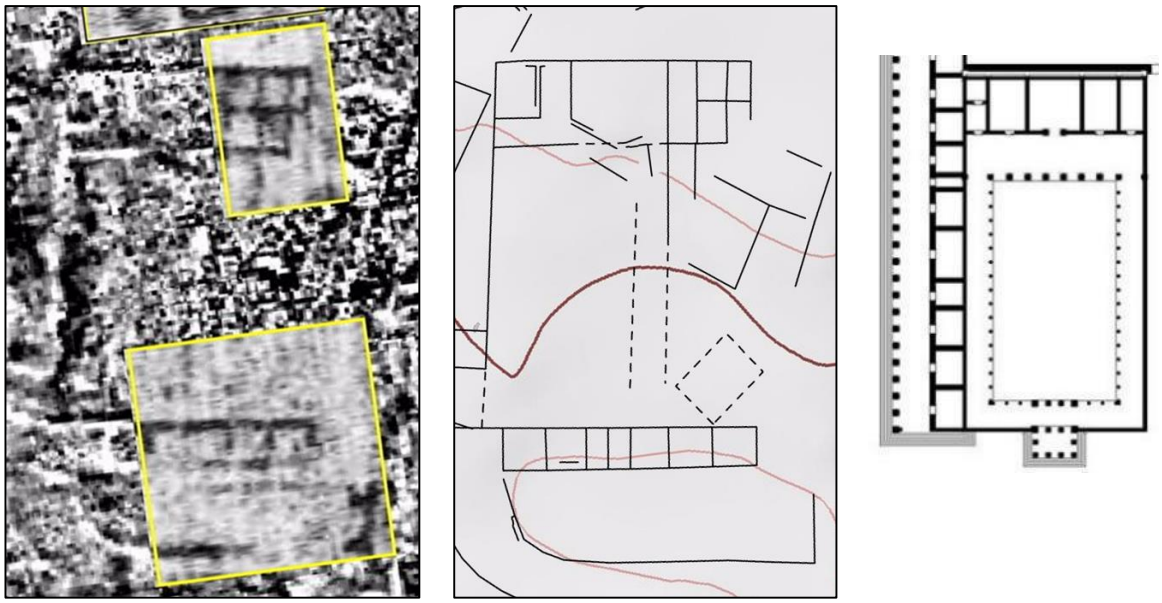

Fig. 6.53 a/b/c. A g*ymnasion*? a) Geophysical results of the Eastern Suburbium's site G (with the GPR surveys, in the yellow squares, plotted on top of the seismometric-magnetometric map); b) Highlighting the results for comparison (the walls with a different orientation postdate the occupation phase of the complex, see § 9.2.2); c) Hellenistic Gymnasion of Miletos, represented at the same scale as the Sagalassos 'Gymnasion'.

With this limited information, similarities have been drawn with the 2nd century BC Gymnasion of Miletos, in size as well as in general layout (**Fig. 6.53**). The *peristylium*-courtyard might have served as a *palaistra*, which is a building type in its own right. But the variety of smaller and larger rooms to the north and south of the courtyard might be explained by the multitude of activities associated with a *gymnasion* (separate rooms for education, (un)dressing, dusting, boxing, oiling, bathing, *etc.*).[668] The apparent abandonment of the complex in the 4th century AD and subsequent dismantling could be linked with the rising influence of the Church (see § 9.3.1). The institute '*gymnasion*', as forerunner of the pagan culture of Antiquity and as representation of the ideals of ancient education and *paideia* ('the rearing and education of the ideal member of the *polis*'), were indeed fiercely rejected by the Christian authorities, while baths, in contrast, were condoned only because they were associated with hygiene and health.[669] If such an identification is correct, than the 'pagan', religious connotation of the complex might be embodied by the presence of a possible 'shrine' northwest of the complex (see further).[670] Throughout Imperial times the bathing sections of *gymnasia*i would become more and more the prominent part of the newly built complexes and many of the older *gymnasia*i were equipped with an additional bathing section. In the Sagalassos case, a parallel for this might be found in the building southeast of the coroplast workshops (see § 6.5.3).

[668] *Ibidem*, 369-370.

[669] Yegül 2010, 205-206; Fox 1987, 670.

[670] This 8.6 by 5.9 m building (probably a *distyle in antis*) has not been excavated, but it is one of the only constructions of the Eastern Suburbium of which most of the outlines are still visible at the surface. Its location within the 'monumental quarter, overlooking the theatre and along the main road leading in from the city centre, makes it stand apart from any of the *naiskos* tombs in the Eastern Suburbium. The architectural remains confirm a high status. An identification as a shrine is indeed more likely than that of another tomb.

Discussion 2: a *campus*?

There are, however, more factors that appear to contradict the identification of the complex as a *gymnasion*. The suburban location of the complex and the modesty of the architectural remains are strong counterarguments. Moreover, the comparison above only uses one third of the Miletos Gymnasion (which also contains a second *palaistra* and an actual bathing section) in order to match the Sagalassos data. Other options should be proposed. When we consider the suburban location as a defining characteristic for this complex, the overarching term '*campus'* comes to mind.[671] Although underrepresented in modern studies, this building type was "*aussi essentiel pour une ville antique que le sont le forum, les thermes, le théâtre ou l'amphithéâtre*".[672] The concept '*campus'* appears to cover a wide spectrum of functionalities without excluding any of the above-mentioned possible identifications. Originally, it was mainly used to describe an open-air, unpaved and sometimes even unwalled area where military and athletic exercises were held or where convicts were hanged.[673] But *campi* could also consist of a built-up complex around a central courtyard and could cover a wide variety of purposes and activities (see further). Vitruvius specified that they should be located "*extra urbem sed ad campum*"[674], which is confirmed by epigraphical inscriptions expressing the necessity to construct roads in order to reach the planned *campi*.[675] Indeed, almost all known *campi* are located at the edges of the city, outside of the residential quarters, where enough adequate place was at hand while still being easily accessible.[676]

Hubert Devijver and Frank Van Wonterghem, through the study of ancient (legal) texts, inscriptions and excavation plans of (presumed) *campi* from Italia, Sardinia and Roman Africa, concluded that those complexes would have contained a *maceria* (a walled enclosure) and a porticus, in some cases complemented with *scholae*, *ambulationes* (walking tracks), a *piscina* (swimming pool) or even a whole *balneum* (bathing section).[677] Apart from the central courtyard, *campi* do not comply with standardized dimensions, layout or furnishings; each complex appears to have been adapted to the available space, topography and local needs. Devijver and Van Wonterghem furthermore recognized that in areas under Greek influence, characteristics of the Greek *palaistrai* and *gymnasia* were incorporated into the plans.[678] They interpreted the *campus* as mainly a *ludus publicus*, an area offering leisure and sports facilities to the common man and opportunities for charity to the elite.[679] In many ways the layout and purposes of the *campus*, according to this study, overlap with those of the *gymnasion*. The identification of several *campi* in Gallia, Raetia, Italia and Hispania by Alain Bouet, on the basis of both archaeological and epigraphical evidence, follows the same reasoning.[680] Aldo Borlenghi elaborated on the perceived sportive-military character of these complexes in a more recent article, where he defines a campus as "*uno spazio pubblico polifunzionale, destinato principalmente all'attività fisica e alle esercitazioni di tipo marziale degli* iuvenes *di una comunità*".[681] He furthermore states that *campi* are a phenomenon exclusive to Italia and the western provinces, since the tradition of *gymnasia* in the Greek East would impede the introduction of this type of similar infrastructure. Nevertheless, he immediately follows up by discussing several '*gymnasia-campi*'

[671] We use the Latin term '*campus'* since no Greek alternative is known to us. Further down the text it will become clear that our identification of the complex would have made it the assembly area for the *panegyreis* (periodical fairs), a phenomenon that was widespread throughout the hellenised world (De Ligt 1993; Garcia Morcillo 2013). Strabo refers in Greek to the Campi Macri, the location of a famous north Italian *panegyris*, as *Μακροὶ Κάμποι* (Makroi Kampoi), and so also refrains from using a Greek alternative (Strabo *Geographica*, 5.1.11).

[672] Bouet 1998, 111.

[673] Borlenghi 2010, 4. *E.g.* the Campus Martius and Campus Agrippae, both in Rome.

[674] Vitruvius *De Architectura*, 1.7.1.

[675] Borlenghi 2010, 5-6.

[676] Devijver & Van Wonterghem 1984, 199-200.

[677] *Ibidem*, 200.

[678] They are describing the situation in Italia, Sardinia and Roman Africa, where Greek colonial influence played its role in southern Italy and Spain (Devijver & Van Wonterghem 1984, 202-203). But from these observations it can be deduced that this would be even more so for the hellenised East.

[679] Devijver & Van Wonterghem 1984, 199-200, 204-205.

[680] Bouet 1998, 112-117; 1999; 2001-2002, 63-64.

[681] Borlenghi 2010, 4.

(Alba Fucens, Herdonia, Herculaneum and possible eastern archetypes Demetriade and Halicarnassos) and ascribing them additional functions such as funerary *ludi*, ritual processions, meetings and leisure.[682]

Indeed, the range of purposes and activities associated with *campi* would in time become increasingly elaborate. While *campi* in Late Republican and Augustan times were apparently mainly associated with military and leisurely purposes, they would eventually be known to accommodate festivals and commercial activities as well.[683] It is clear that the infrastructure, once available, could have hosted a variety of activities for which a large, enclosed space *extra muros* was necessary. Alan Kaiser, for example, mentions the following activities associated with the term '*campus*' by ancient authors: "*voting; campaigning; political meetings; military exercises; entertainment; funerary rites* [and] *burying Vestal Virgins who broke their vows*".[684] The commercial-religious aspect is rather surprisingly missing from this list, since it is clear from ancient sources that suburban *campi* would in many cases serve as the meeting grounds for festivals, fairs (*panegyreis*, *mercati*, *agorai*), and markets (*nundinae*, *conventi*), activities that were in many ways interlinked. Festivals were often accompanied by *panegyreis* and, conversely, fairs and markets were in most cases inseparable from religious connotations. In fact, the strong association between fairs and cult places is a well-known phenomenon in the Graeco-Roman World, with sanctuaries often serving as communal meeting places for markets and fairs.[685]

Cattle markets are often specifically mentioned as an important part of multiday fairs and markets, sometimes in association with their own permanent infrastructure: the *forum pecuarium*. While the term '*forum*' is in most cases used for intramural infrastructure, the cattle markets were located on the outskirts of towns. From the study of the livestock markets at Rome, such as the Forum Bo(v)arium (the original cattle market) and the Forum Suarium (especially pig trade?), it can be understood that direct accessibility appears to have been a prerequisite. The Forum Boarium, for example, stopped serving as a standing livestock market once the city's suburban sprawl enclosed the market with too densely populated quarters, giving rise to new animal markets at the edges of the inhabited space.[686] These suburban locations and/or infrastructure used to host cattle markets could also be referred to as '*campi*'.[687] Santiago Martínez Caballero defines a *forum* in Confluentia (in Hispania Citerior) as a livestock market (*forum pecuarium*) as well as a suburban recreational field (*campus*)[688] and he proposes a similar identification for a suburban enclosure in nearby Termes as well as for other sites on the Iberian and Italian peninsulae. Both Strabo and the 1st century BC Roman author Marcus Terentius Varro mention the Campi Macri as the location of an animal husbandry fair in north Italy.[689] Even though this type of fairs could be organised with temporary constructions within an enclosed area[690], the Campi Macri contained a number of buildings.[691]

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[682] *Ibidem*, 6-15.

[683] Richardson 1992, 64-68; Martínez Caballero & Santos Yanguas 2005, 695.

[684] Kaiser 2011, 27 Table 1.1.

[685] De Ligt 1993; García Morcillo 2013; Howe 2014. For a discussion on the use of the partially overlapping but never fully interchangeable Greek and Latin terms, see De Ligt 1993, 33-55; García Morcillo 2013, 239-246. Ancient authors sometimes use these terms not only to refer to the activity, but also to the location.

[686] Frayn 1993, 146-148; Howe 2014, 149-150.

[687] The term '*campus*' has been associated more often with livestock markets, *e.g.* in the case of the Campus Boarius and the Campus Salinarum, both near Rome (Frayn 1993, 147) or the Campi Macri in North Italy (De Ligt 1993, 59). Few excavations have identified individual structures as *fora pecuaria*, even though their presence in other Italian towns is known from ancient literature (Frayn 1993, 151-152 mentions Aquileia, Atina, Falerii, Ferentinum, Aeclanum, Heraclea and possibly Puteoli) and/or from archaeological/epigraphical remains (Martínez Caballero 2013 mentions Alba Fucens, Corfinium, Saepinum, Tibur, Aeclanum and the original Forum Boarium at Rome). Examples of (presumed) *fora pecuaria* on the Iberian peninsula include Duratón, Emporiae, Turobriga, Termes and Augusta Emerita in Hispania/Lusitania and Vicus Veniensis and Póvoa de Mileu in Lusitania (Martínez Caballero 2013). These undoubtedly only represent the tip of the iceberg and it is possible that several excavated complexes that have been denominated as *fora*, *agorai*, porticoes or *gymnasia*i might have served as (part-time) livestock markets.

[688] Martínez Caballero 2010a.

[689] See Strabo *Geographica*, 5.1.11; Varro *De Re Rustica*, 2.6 (García Morcillo 2013, 242).

[690] Martha García Morcillo (2013, 240) refers to Pausanias (*Periegesis*, 10.32.14) who mentions how stands or cubicles (*skene*) made of reed and other materials would be erected on the second day of the *panegyris* at Thithorea (Phocis).

[691] In the 1st century AD a buyer-up received an exceptional demolition permit to dismantle the delapitated buildings on the Campi Macri site (De Ligt 1993, 59).

Similarly, while the enclosure at Confluentia appears to have been devoid of internal permanent infrastructure (**Fig. 6.54 a**), a very similar compound at Turobriga (in Hispania Ulterior) contained a series of rooms along its inner walls (**Fig. 6.54 b**).

Roman towns, in general, had standing, year-round livestock markets that could be independent from sacrificial demand. Alternatively, in the Greek World – and specifically in the less populated, mountainous areas – religious sanctuaries in both the lower plains and the high meadows could serve as the community centres, since they were in many cases the only permanent structures offering the necessary infrastructure.[692] In a society where the vast majority of the population lived in rural communities, markets and fairs would have played a very central role in the circulation and (re)distribution of goods. Fairs should be regarded as the only times and places where people living in the countryside could acquire a wide variety of items, including livestock, but also luxurious items to all types of goods that would not have been produced in the immediate vicinity. Luuk De Ligt[693] builds up a strong case for the importance of markets and fairs throughout the Empire, with most of the evidence originating from the *panegyreis* (fairs) in the eastern provinces. Markets and fairs would have been all the more important for inland communities, who did not have access to alternative means for the circulation of goods (such as the *stationes* of the maritime cities).[694]

Apart from the above-mentioned links between *campi* and other infrastructural elements (porticoes, *piscinae*, baths, *scholae*, *etc.*), which are sometimes even incorporated into the complex, several known examples also reveal a close connection with (amphi)theatres, which would serve as functionally complementary spaces in times of mass gatherings.[695] Likewise, there are examples of *campi* in the immediate vicinity of industrial quarters, with in the case of Turobriga even a Late Roman pottery workshop installed at the site previously occupied by the *campus*.[696] The *campi* were also likely to host their own temple(s), as they were consecrated to a certain (protective) divinity. While Mars is the traditional god associated with *campi*, Italian *fora pecuaria* had a predilection for the cult of Hercules, *"the protector of herdsmen, traders, trade in meat and livestock"*.[697]

Even though there is still a lot to be learnt from site G at Sagalassos, the general plan that can be derived on the basis of the geophysical surveys (2003 and 2012) and five archaeological test trenches clearly fit within the wide framework of urbanistic and architectural characteristics exposed above. Most obviously, there is the extramural location of the site in the Eastern Suburbium, which is still in immediate proximity to the city. There is the close association with monumental architecture in the immediate surroundings, thus forming a distinguishable quarter within the *proasteion*: the Theatre to the west, the *schola* at site PQ 2 to the north and a large multi-roomed building (possibly baths?, see § 6.5.3.2) to the northeast. All of these buildings are commonly associated with *campi* in other examples mainly in the western part of the Empire. A parallel can even be found for the vicinity of an artisanal quarter and the possible encroachment of pottery kilns within the site G complex: the Turobriga *campus* mentioned above. As far as we can reconstruct the layout of the site G complex, the central feature can be described as an open space surrounded by multiple rooms. There are secondary constructions to the west and south that, based on their location and orientation, appear to be part of the same larger complex (see § 6.5.3).

[692] Howe 2014, 149.
[693] De Ligt 1993.
[694] De Ligt 1993, 76.
[695] Martínez Caballero mentions Pompeii, Paestum, Emporiae and possibly Termes in this regard (2013, 82).
[696] Campos Carrasco *et al.* 2013, 229-230.
[697] García Morcillo 2013, 261-263 (quote from 262). While other divinities might have taken up these roles in other parts of the antique world, Martínez Caballero suggests a similar role for Hercules in the case of the *campi* on the Iberian peninsula, based on the Italian models and on the strong presence of Hercules in the area he studied.

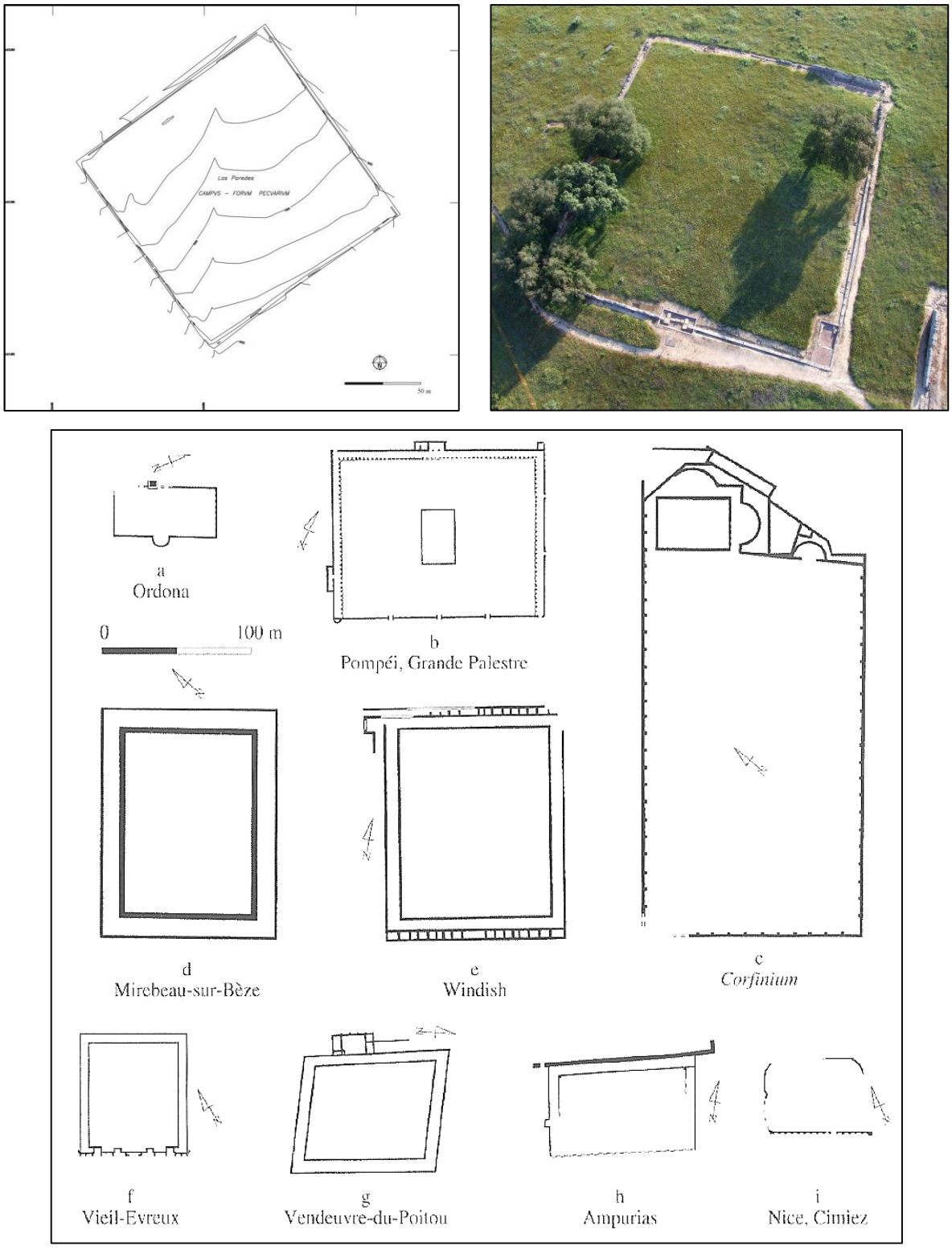


Fig. 6.54 a/b/c. Examples of suburban *campi* (– *fora pecuaria*) in the Roman West.

a) The *campus* at Confluentia (modern Duratón) in Hispania Citerior. A small excavation along the northeast wall exposed a section of the outside wall. No excavations have been performed inside the enclosure, but it is expected that there were no permanent structures (from Martínez Caballero 2013, 10 Fig. 7).

b) The *campus* at Turobriga in Hispania Ulterior. Some structures have been revealed along the sides of the enclosure, which were interpreted as rooms used by a *collegium iuvenum* for ceremonial and practical purposes (Campos Carrasco *et al.* 2013, 228 Fig. 7).

c) Various examples of presumed *campi* from Gallia, Raetia, Italia and Hispania (Bouet 1999, 473 Fig. 6).

The so-called 'Shrine' to the northwest is a small temple-shaped building (most likely a *distyle in antis* on top of a podium), flanking – but not facing – the road coming in from the city centre. The visible remains do not allow distinguishing this structure from a temple-shaped tomb (the size is only 1/10 larger than the PQ 1 *naiskos* tomb), but its location at a prominent position within the 'monumental quarter' of the *proasteion* makes it stand out from the surrounding Eastern Necropolis. The building is not facing a thoroughfare, which suggests that its orientation was imposed by the wider conception of the whole site G complex. Its possible identification as a small temple shrine cannot be excluded, but (*heroa*) tombs have been associated with so-called '*gymnasia-campi'* in Alba Fucens, Herdonia and Herculaneum in Italia and with Demetriade and Halicarnassos in the East.[698]

As an inland community, periodical fairs would have played a more important part in the circulation and (re)distribution of goods than would have been the case at coastal sites. We already know that Sagalassos was an important centre for festivals (see § 2.1) – among which the ones associated with the Imperial cult during a large part of its Roman history – and that festivals were often accompanied by fairs that lasted for several days or weeks. It is reasonable to see a link with cattle markets. Recent isotopic research by Benjamin Füller shows that while the animals of Düzen Tepe were apparently herded in the same general area or kept in enclosures and fed on similar foods, the more distinct results for Roman Imperial Sagalassos suggest that animals were consumed from various locations within the territory.[699] This would mean that a central market would have been necessary in order to trade (and slaughter) livestock animals from various origins.

Site G would have been easily accessible, without the necessity to drive a flock or herd through the city centre or even through the densely built-up parts of the Eastern Suburbium. Sagalassos' Lower Agora, the economical heart of the city, appears to have been accessible only via stairs[700], and the Macellum, adjacent to the Upper Agora, would have been off limits for the same reasons. Moreover, their locations in the city centre make them unsuitable as livestock markets. A third *agora* (the so-called 'Lowest Agora') was encountered during intensive surveys west of the city centre[701], but its position within a densely built residential quarter, would also have hindered its possible use as a livestock market. The complex at site G, on the other hand, was perfectly accessible from the outside, while still having direct, downhill access to the city centre's selling points of cured meats (most likely the Macellum and Lower Agora). The main access route into the eastern *proasteion* from the surrounding territory indeed reaches the *campus* even before splitting up into the funerary-artisanal quarter. Similarly, organising the livestock trade of Sagalassos at site G of its Eastern Suburbium would have eliminated any hazardous consequences for the inhabited areas.

The five test trenches dug within the *campus* produced large amounts of pottery workshop refuse mixed with faunal remains and other domestic waste (a mixture of refuse that can be interpreted as originating from a household). The animal bones partially resulted from consummation waste and partially from dumped carcasses and post-date the abandonment of the complex. Nevertheless, one particular concentration encountered in the northwestern trench (**Fig. 6.50 b**), apparently deposited inside a ditch lining the northern wall of the complex, stood out. This dump consisted of a very large amount of mainly cattle and pig bones deposited while the building was still in use (dated between 250-300 AD based on associated ceramic finds, see also § 8.5.2).[702] Only 3 m of the *c.* 41.5 m long northern wall has been exposed, suggesting that only a fraction of the total animal dump was excavated. The most logical explanation is that these deposits were the result from the slaughtering and boning of cattle and pigs, an activity that most likely took place nearby (unless strictly necessary, refuse was never

[698] Borlenghi 2010, 6-12.

[699] Füller *et al.* 2012.

[700] Both the northern and southern access routes to the *agora* contain flights of stairs. There was a third access route coming in from the southeast (south of the Roman Baths), which appears to follow the contour lines. However, its approach route cannot be reconstructed and had to surmount steeper terrain than the route coming into the Eastern Suburbium. Moreover, the area south of the Roman Baths appears to have been very densely occupied and probably unsuitable for heavy traffic.

[701] Martens 2003, internal survey report. A concise version of this report can be found in the *Araştırma Sonuçları Toplantısı* 22, Vol. 1, 369-372.

[702] G 2004 internal excavation report by Peter Talloen.

dumped very far from the place it was produced, see § 11.2.2).[703] The geochemical soil survey of the area[704], showed possibly significant high values for P (phosphorous) on the steep, rocky slopes immediately south of site G. Phosphorous is prevalent in urine, faeces, ashes, plant and animal tissue and bones, and can result from a variety of activities, but it is especially regarded as an important indicator of occupation waste or manure. The waste can only have ended up on these inaccessible slopes if it was dumped there from above; erosional processes, which were considered as an important bias factor to the study of the geochemical samples[705], are less likely to have played a role because of the level ground immediately above. Additionally, no permanent structural presence has been attested for these cliffs, which makes the high numbers of phospherous all the more contrasting with the lower indications for the rest of the densely occupied Eastern Suburbium. The nearest location that could have served as the source of the waste is site G to the north, and animals would be the most logical origin of the waste. The nearest location where animal faeces could have been dumped – without causing too much nuisance to this public area – would have been these steep cliffs south of the site.

A *campus* set within the Eastern Suburbium could also have served as the venue for other temporary markets, such as the *nundinae* (markets organised on a nine-day cycle), where for example products derived from animal carcasses could be traded, but where also the potters and other artisans could peddle their wares. Furthermore, similar suburban complexes are also known to have served as meeting places for public banquets (*cenae publicae*), not unlike Rome's Forum Boarium, which was the traditional place for the public banquets organised in the capital.[706] There are additional suggestions for the use of such a complex: with its multiple surrounding rooms it might have been suitable as a temporary caravanserai[707]/pension, accommodating (part of) the influx of participants in the large festivals organised for the wider territory (such as pilgrims, country folk, foreigners, *etc.*). Also barracks for the military or *vigiles* are known to be constructed on a similar plan[708], even though it is unlikely that Sagalassos would have needed such a large *caserne* (unless, once again, the complex could have served other purposes as well). A multi-purpose complex would certainly have fitted into the surroundings, with the presence of other monumental buildings (*e.g.* the PQ 2 *schola* and the Theatre) that could contribute in hosting and accommodating communal events.

The abandonment of the site before the 5th century AD (see § 8.5.2) does not have to interpreted as an indication for the abandonment of *panegyreis* (fairs) in general or cattle markets in particular, but might be understood as evidence for a 'ruralisation' of the practice.[709] Maybe in the case of Sagalassos this should be understood in relation with the observation that cattle from the Late Roman period onwards were herded in (or fed on food obtained from) areas removed from the heaviest pollution[710], *i.e.* away from the artisanal zones. Alternatively, an identification as a caravanserai might fit with the observation of the site's early abandonment, if it can be

[703] Little is known on the location of slaughterhouses (*lanienae*) in Roman times. They were certainly not found within *macella* (Frayn 1993, 70) and it is more likely that they would have been located in the surroundings of livestock markets. It is generally assumed that animals were mostly slaughtered on demand, since the absence of refrigeration options meant that unsalted meat would decay. Meat was thus not part of the staple diet for the common Roman (*Ibidem*, 146; Donahue 2004, 35-36); its consumption would in many cases be associated with religious festivals and the associated handouts in the form of *prandia*, *epulae* or *sportula* (depending on the status of the participant) at public banquets (Dunbabin & Slater 2011, 454). The ritual slaughter of animals as sacrifices during religious festivals is an activity generally associated with temples (Frayn 1993, 147-148; Howe 2014, 144).

[704] Dirix 2014, 81-109.

[705] Another area that yielded elevated values for phosphorous was the northern half of the Central Depression (Dirix *et al.* 2013, 242 Fig. 8). Erosion might have played a larger role in this case, but the values might also be understood as an additional indication for the use of the Central Depression as a large landfill, while also the possible post-occupational use of the Central Depression for agricultural purposes can be an explanation. In the latter case, however, a more equal spread of the phosphorous might be expected.

[706] Dunbabin & Slater 2011, 454.

[707] The word can be traced back to the Persian *kārwān* ('caravan') and *sarā* ('palace' or 'building with enclosed courts').

[708] Sablayrolles 1996.

[709] De Ligt 1993, 60-62.

[710] This observation is based on a study of pb and Cu contents (pollutant indicators) of cattle bones, with significant differences between the Early/Middle Imperial and Late Roman samples for cattle and goat/sheep (Degryse *et al.* 2004; Vanhaverbeke *et al.* 2011, 80; Fuller *et al.* 2012, 165-167).

understood as a consequence of the city no longer functioning as the regional '*neokoros*' (see § 1.2) and the subsequent loss of visitors that would have poured in for the Imperial festivals.

There is, however, relatively little archaeological evidence – especially in the east – to back up this hypothesis, which is mainly based on the written record. Once again, this can be partially explained by the lack of systematic research into *proasteia* of ancient cities. It is probably not a coincidence that examples are effectively showing up when they are actively prospected for in a specific area.[711] Moreover, since there is no uniform architectural plan – if any at all – to be associated with these activities, it is all the more difficult to recognise a '*campus*' on the basis of archaeological data alone. It may be clear from the textual evidence[712] that in many cases the traders would set up temporary booths (*skênai*) on the grounds, of which structural externalisation might have been limited to an enclosure wall, as was the case at Corfinium and Praeneste in Italy and at above-mentioned Turobriga[713] and Duratón (**Fig. 6.54 a**). However, there are also known examples with on-site permanent structures, possibly *tabernae* (shops), such as the above-mentioned Campi Macri, the locality Ad Casas[714] in Roman Africa and possibly Mursa[715] in Pannonia. In any case, the lack of research on this type of constructions makes it difficult to produce comparable examples.[716]

Unless an inscription can be directly linked with the structure, there is no definite way to identify the complex. When we base ourselves on the circumstantial evidence set out above, we can, however, come to an informed hypothesis. In our opinion, it is probable that this site – based on its unique topographical qualities, its suburban location, its accessibility for carts and herds, the quality of its architectural remains, its size, its proximity with the artisanal quarter and its association with specific archaeological contexts (slaughter dumps and pollutants) – makes it the prime location for a multi-purpose complex, where activities can be organised that for various reasons should not take place in the city (because of the number of the attending masses or because of the type of activity). We dare to suggest that cattle fairs could have been organised at the site G complex, possibly in combination with the Imperial festivals that were hosted by Sagalassos from the 2nd century AD onwards and/or in combination with the trade of a wide variety of other items. The structural externalisation of the precinct, which includes a large set of rooms, moreover suggests that the complex was equipped to accommodate other purposes as well and none of the above-mentioned activities can *a priori* be ruled out. Finally, if we consider Sagalassos as a more than likely candidate to host *panegyreis*, we should acknowledge that there are little to no alternative locations in the immediate vicinity of the city.

Conclusions

Even with many options still open, the term '*campus*' in its broadest sense covers the main possible identifications and purposes mentioned above.[717] We proposed a few activities for the complex that fit specific versions of this type of infrastructure. This, however, does not imply that the activities traditionally associated

[711] See for example the work by Santiago Martínez Caballero (& Santos Yanguas 2005; 2010b and 2013) and Juan Manuel Campos Carrasco (2010; *et al.* 2013) for the Iberian peninsula; Hubert Devijver and Frank Van Wonterghem (1984) and Joan M. Frayn (1993) for Italy; Devijver and Van Wonterghem (1994) for Africa and Sardinia.

[712] Devijver & Van Wonterghem 1984 and 1994; De Ligt 1993, 56-105; Garcia Morcillo 2013; Martínez Caballero 2013.

[713] Campos Carrasco *et al.* 2013, 228 Fig. 7.

[714] De Ligt 1993, 157 and 173.

[715] *Ibidem*, 252.

[716] Martínez Caballero 2013, 74.

[717] The term '*forum*' also overlaps to some extent with the mentioned purposes and activities, but has a strong connotation with city centres as well. The term '*campus*', on the other hand, immediately evokes an association with *suburbia*. Alternatively, the term '*area*' can be understood even in a more general way than '*campus*', but its definition is ill-defined, making it less applicable to the site G context. Alan Kaiser describes an 'area' as "*a site of construction or demolition, the open space adjoining or surrounding a building, in particular, the precinct around a temple, or simply an area without construction on it*". Some ancient authors would also have used the terms '*campus*' and 'area' interchangeably (Kaiser 2011, 29). Activities taking place at an area would include "*dancing, walking, playing games, socializing* [and] *parking country carts to exchange for litters to be used in* [the] *city*" (*Ibidem*, 27 Table 1.1). The latter activity is clearly linked with a suburban location, and refers to a type of amenity that might have applied to the site G complex as well.

with the *campus* – *e.g.* sports, military exercises and leisure – could not have taken place there, but those can not be ascertained without epigraphic or additional archaeological evidence. The fact that the Latin word '*campus*' is derived from the Greek word '*καμπος*' (*kampos*) and is also used as such in ancient Greek literature (see Footnote 671) strengthens the justification of its use in an ancient Eastern setting. Moreover, the added meaning of 'flat/level space/place' seems all the more appropriate when considering site G's occupation of the largest contiguous level area in the immediate surroundings of Sagalassos. It needs to be stressed, however, that the term '*campus*' is used by both ancient sources and modern scholars alike to cover a varied range of infrastructural complexes. It is also likely that the contemporary inhabitants of Sagalassos would have used a different denomination to refer to this complex. Greek terms such as *palaistra*, however, are too non-specific to describe this particular, suburban development. Throughout this thesis, we refrain from linking the term '*campus*' to site G by default and instead opt for the more neutral description 'site G complex'.

When we consider the site G complex as part of an even larger (semi-)public development including the so-called 'Shrine', site PQ 2 *schola* (see § 6.5.2) and the large rectangular building to the northeast (see § 6.5.3.2), then the discussion should also entail the identification of those individual structures.[718] If, for example, the rectangular building could indeed be confirmed to be a *balneum*[719], then the term '*gymnasion-campus*' would be more inclusive when describing the whole southwestern quarter of the Eastern Suburbium.

Fig. 6.55. Georeferenced orthophoto of the northwestern corner of the *campus*, with the indication of three of the five 2004 test trenches (trenches 4 and 5 were dug in the south of the complex, see Fig. 6.50 b). The outer walls of the central building and the location of the possible 'Shrine', the only building of which the contours are visible at the surface within the Eastern Suburbium, are indicated in blue. The dump with the presumed remains of slaughtered cattle and pigs was encountered within trench 1, but only north of the outer wall of the building.

[718] Bouet 1998, 111; Bouet 1999, 462: "*Le siège de la* Juventus *(*schola*) se trouve parfois en relation directe avec le* campus *ou à proximité immédiate. Il en est de même pour les thermes.*"
[719] Borlenghi 2010; Bouet 1998, 111.

6.5.2 *Saalbau*[720] type *schola* at site PQ 2

The archaeological context[721]

In 2011 a new extensive excavation trench was opened at site PQ 2 (**Fig. 6.56**), in between the Theatre and the coroplast workshops (**Fig. 6.64**). Geophysical research had revealed the presence of a rectangular building in this western part of the Eastern Suburbium. The site lies at a bifurcation of the main thoroughfare into the Eastern Suburbium coming from the city centre, with an eastern arm extending deeper into the actual potters' quarter and a southern arm connecting with the main road leading in from the Elmalı Pınar / Gökpınar area. The geophysical survey results suggested that there were no kilns present in the building, while the immediate surroundings east and north are riddled with them. The absence of kilns, the location of the building and its presumed regular layout were the incentives to open this specific site, as part of the research program aimed at documenting possible other activities within the Eastern Suburbium.

Fig. 6.56. Masterplan and aerial view on site PQ 2 after the 2014 excavation campaign. See Attachment 5 for more detail.

This building was erected around the middle of the 1st century AD as a simple rectangular structure (a 'hall building' or '*Saalbau*') with outer dimensions of 10.85 x 12.80 m. The building was NNW-SSE oriented and is currently positioned on a gentle slope with the same orientation. However, the original topography appears to have looked quite different. The 2014 sounding west of the building showed that at least the western part of the construction was bedded into a natural, north-south oriented gully, partially filled with stratified layers of tephra. These weathered volcanic layers most likely resulted from the erosion of older volcanic depositions uphill.[722] The

[720] Beate Bollmann defines a *Saalbau* as " […] *überwiegend langrechteckig mit dem Haupteingang in der Mitte einer Schmalseite*" with, in most cases, a podium, statue base or apsis against the back wall opposite from the entrance (Bollmann 1998, 103).

[721] Most of the description of this building is based on internal excavation reports, *i.c.* by Johan Claeys (2011 and 2014), by Van Haelst & Özkılıç (2012) and by Talloen & Beaujean (2013). More concise versions of the 2011 and 2012 reports have appeared in the *Kazı Sonuçları Toplantısı* series (2012, 141; 2013, 249-250). The 2013 and 2014 campaign will appear in the same series.

[722] The most recent documented ignimbrite eruption that was recorded from the nearby Gölcük volcano, dating to *c.* 22.000 years BP (Platevoet *et al.* 2008, 155), appears to have only affected the northern, İsparta side of the mountain slope. The most recent pyroclastic clouds resulting from Gölcük eruptions that would have affected Sagalassos and its surroundings,

tephra layers were topped off and part of this material was used inside the building as substratum for the original walking level in the northwestern rooms 2 and 4 (see further). In the profile a posthole could be identified, dug into the tephra layers below. Considering its stratigraphical position and the distance from the building's western wall, the posthole most probably resulted from the construction of the scaffolding that was used for the construction of the building's standing walls and roof.

Fig. 6.57. View on the PQ 2 building from the south, towards the end of the 2014 excavation campaign. In the foreground, on the right, one recognises the southern entrance, central the fountain basin, in the background the subdivision of the northern half of the building into four rooms (the central wall having been dismantled) and in the middle of the back wall the original northern entrance to the building (Fig. 6.58). At the far left we recognise the corner of a smaller ashlar monument (Fig. 6.63).

The walls of the building were mainly erected in mortared limestone rubble, with the irregular use of some ashlars (probably *spolia* from older monuments) mainly in the outer facades of the wall and at corners. The only known original access to the building was through a monumental 2.4 m wide entrance in the northern wall (**Fig. 6.58**). The door posts consist of large ashlars, standing on top of a rubble-built base and topped by a brick-built part of the wall (bricks measuring 40 by 40 cm; this is the only part of the original walls where brick is applied). The width of the standing walls measure respectively *c.* 1.15 m for the northern wall, *c.* 0.9 m for the western wall, *c.* 1.15 m for the southern wall (only preserved at foundation level) and between *c.* 0.6 and *c.* 0.9 m for the eastern wall. The eastern wall is accommodated with two buttresses, subdividing the wall into three more or less equal parts. In between the buttresses benches are protruding *c.* 0.45-0.55 from the wall. No specific function could be ascribed to these benches, but their height above (original) floor level seems to indicate they could have been used for seating. The inner facades of the walls were plastered with white plaster all the way down to the protruding foundation level.

date to 1.1 and 1.3 million years ago (personal communication by Patrick Degryse). These layers of volcanic ashes have also been encountered at other locations in the city, *e.g.* they filled up a natural depression underneath the Upper Agora (Waelkens 2009, 177).

There are no indications for windows in the building nor did we encounter window glass between the debris. Large parts of the west wall and the original south wall are dismantled to a level that might have obscured the presence of windows, but also the better preserved northern and eastern walls, in large parts standing to more than 1.50 m above the original floor level, do not show any window openings. Later find assemblages, functionally associated with the building, contain a lot of oil lamps (see § 7.5.2). Activities inside the building may have taken part in partial darkness, whether at night or in a building effectively (and intentionally) closed off from daylight.

No structural floor level can be associated with this earliest phase of the building. Imprints in the mortar substratum along the drainage channel of the central water feature (see further) suggest that the original slabs or bricks/tiles were removed (see also § 7.5.1). No fragments of stone slabs have been encountered during the excavations, while quite a lot of fragmentary brick has been recovered from the layers filling the building. Since brick was only very sparsely used in the standing walls, it is possible that they might originate from the original floor. The height difference of *c.* 1.2 m between the original walking level within the building and the Roman Imperial street level that was exposed less than three meters from the northern entrance suggests steps must have led down to the entrance.[723]

Apart from the benches and buttresses along the eastern wall, the main infrastructure inside the building consisted of a central water feature, *i.e.* a fountain basin measuring *c.* 2.9 m north-south by *c.* 1.7 m east-west (**Figs. 6.60**-**6.61**). Only the heavily constructed substructure of the fountain basin was preserved, made from large sized mortared limestone blocks and spoliated ashlars. These were not foundations, since they must have been part of the visible standing structure. The inside measures *c.* 0.85 by 1.70 m, in which the terracotta water pipes leading in from the north are heavily set in mortar. The final, southern part of the water pipe is a vertical segment, which originally must have fed a – now disappeared – large basin on top. The foundation trench of the structure contained potherds dating to the first half of the 1st century AD, confirming it being a part of the original construction phase of the building.

In the original construction phase this basin was the centre piece of the building, as it occupied the central position along the back wall, opposite the only entrance. It appears to have been constructed together with the southern wall, with which it was interconnected. A water channel supplied the fountain with water coming in from the northwest, possibly connected with one of the water channels exposed north of the building in 2012. This water channel consisted of *c.* 50 cm long and *c.* 15 cm wide (outer diameter) terracotta pipe segments. The joints between the terracotta pipes are closed off with a thick coating of mortar, suggesting the channel had to sustain a high water pressure. The final, vertical segment of the channel has a smaller outer diameter (11 cm wide), possibly to build up even more pressure. Both the diameter of the pipes and the capacity of the outlet channel suggest that quite a lot of water, at a high flow rate, could be discharged through this water infrastructure, which is also why the term 'fountain' is justified. A similar water feature has been documented inside the so-called basilica at Ostia, where the *collegium* (association) of the ferryboat skippers was accommodated. A water basin occupies the same position within the building as the fountain basin at the PQ 2 site, *i.e.* at the centre of the back wall (here in front of the apsis) "*in der Längsachse des Mittelschiffs*".[724] The schola was erected under Trajan's rule, but the water basin appears to have been a later instalment. No interpretation for its presence has been offered.

North of the building a pit was encountered that was filled with small and medium-sized and limestone rubble. The feature was east-west oriented, parallel to and at a distance of 1.05 m from the northern wall of the structure. Its dimensions were on average 0.70 m in width, minimum 1.10 m in depth (the bottom was not reached) and at least 2.00 m in length (but extending both towards the east and west beyond the limits of the trench). The pit contained only loose limestone rubble, showing no faces, and the little bit of soil and ceramics

[723] A sounding north of the building, planned for the 2015 excavation campaign, should establish the relation between the buildings' entrance and the adjacent street.
[724] Bollmann 1998, 275-278.

encountered in between the stones most probably percolated from the layer on top. The lack of additional finds in this pit made it impossible to retrieve a direct date for this feature, but its stratigraphic position suggest a date during the operational phase of the building. Maybe we are dealing here with a robbed foundation trench of an original vestibule or of a substructure of the staircase that would have connected the building with the higher level of the street running north of it.

Fig. 6.58 (above). View from the southeast on the original, northern entrance to the *schola*, with door posts consisting of larger ashlars topped with brick. The threshold of the building could not be uncovered and possibly remains hidden below the current profile. The entrance was closed off during a final phase of use of the building.

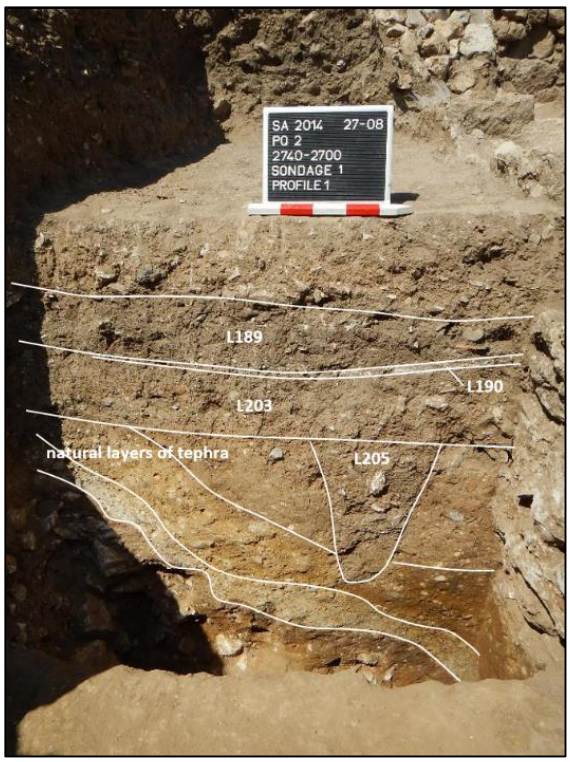


Fig. 6.59 (right). View from the south on the northern profile of the 2014 sounding west of the *schola*. Notice the continuous mortar layer (L190) and the post hole (L205).

Fig. 6.60. Top view of the substructure of the central water feature of the PQ 2 building. The water came in pressurised from the north (left on the picture) and was originally brought up to an upper basin through the final vertical segment of the water pipe. See Fig. 6.61 for the surroundings of this water feature.

Fig. 6.61. View from the southwest on the central water feature, with the terracotta water pipe leading in from the north and the runoff water channel evacuating the water towards the south. The feature was integrally built together with the original southern wall of the structure. The visible runoff channel was probably only constructed after that wall was dismantled. The mortar preparation area should be understood in the context of the southwards expansion of the *schola* (see § 7.5.2).

Fig. 6.62. Water basin encountered inside the so-called basilica of Ostia. From Bollmann 1998, Taf. 11,2.

Discussion: a *schola*?

There are no direct indications (inscriptions, figurative mosaics or wall paintings, *etc.*) to reveal the original purpose of this building. The identification of the building has to be based on its location, its architectural layout, the facilities attested within (and outside) and the find contexts that can be linked with the use of the building:

- **Location**:
  - suburban, but part of the continuously built-up area (*continentia aedificia*) sprawling beyond the city centre;
  - in the immediate vicinity of a public spectacle building (the Theatre) and surrounded by other large, monumental structures;
  - at a cross-point of some of the main roads leading in and out of the Eastern Suburbium;
  - constructed partially over a gully (whether or not still aquiferous).
- **Architectural layout**:
  - a relatively large uninterrupted hall (so-called *Saalbau*);
  - a monumental entrance through its northern narrow side;
  - steps leading down in order to enter the building (?);
  - absence of windows (?).
- **Facilities**:
  - benches (?) along the eastern wall;
  - a central fountain basin against the back wall, dominating the hall and the view from the northern entrance.
  - a freestanding monument (altar/podium/tomb/?) immediately west of the building.
- **Find contexts**:
  - no find contexts linked to a specific function could be associated with the 1st century AD original building phase;
  - parallells might be drawn from later find assemblages found east of and within the building (see § 7.5.2), even though those correspond with a radical change in the buildings' layout.

Most features of the original building seem to overlap with structures associated with cultic activities, especially the ones associated with cults dedicated to eastern gods as Mithras, Serapis, Isis and/or Harpokrates.[725] A *mithraeum*, for example, generally consisted of a relatively small hall with benches/podia, no windows, steps leading down to the only entrance at one of the narrow sides, a vaulted ceiling and in most cases a water feature.[726] They are normally located underneath existing structures or – ideally – in adapted caves, with podia on both sides of the cult room.[727] None of these characteristics are definite, however, and there are no attested *mithraea* in the wider region.[728]

As mentioned above, a sounding west of the PQ 2 building showed that the structure was founded partially on top of a steep and rather deep gully. It is not certain if this gully was still water bearing during the time of construction, but to the present day the local micro-topography still shows a low depression coming in from the north. There might have been a link between the choice for this construction site and the presence of running, natural water in the immediate vicinity, which might have been drained to feed the fountain basin.[729]

The central presence of water was also intrinsically linked to the cults of Serapis and Isis[730], while it is not uncommon to encounter them in association with Dionysos/Bacchus as well. The conspicuous suburban location of the PQ 2 building – outside of the actual city centre, but in close vicinity of major thoroughfares and other monumental structures – was customary for eastern cultic spaces, but the same can be said for club-houses and temples of the professional associations.[731] It is probably not a coincidence that "*private religious colleges were usually concerned with nonofficial cults, especially those of foreign gods, such as Bacchus, Cybele, Isis, and Mithras.*" The Collegia Isidis, for example, were "*among the most common private colleges* […] *throughout the Empire*", and were at the same time often linked to a professional or funerary *collegium*.[732] In the case of

[725] If future research would confirm the hypothesised association between the earliest building phase and an eastern cult, then the ultimate abandonment of this *schola* might also be explained in this light. Successful foreign cults, such as the ones surrounding Serapis, Isis and Hapokrates (god of silence, derived from the Egyptian child-god Horus) in Sagalassos, would eventually gain enough influence to become part of the religious canon of the city. This would allow for them to abandon their relative shadowy existence in the suburbs experience in the city centre, after which the vacant building could have been occupied by new stakeholders. A date around the end of the 1st century AD for an Egyptian cult to become institutionalised in Sagalassos is not implausible. It is indeed safe to assume that the cults of these foreign deities must already have been widespread, legion and in some parts of the Empire even canon before they got the backing of the Imperial propaganda machine. It is generally believed that Faustina Minor, daughter of Antoninus Pius and wife of Marcus Aurelius, was an important instigator for the popularisation of Isis; later the Severi would become promoters of the Egyptian deities. In Pisidia, a few dozen city coins have been retrieved with the effigies of Egyptian gods, none of them predating the reign of Marcus Aurelius (the earliest one is a coin from Adada with the depiction of a bust of Serapis). It has been heavily debated, but convincingly advocated that the images on civic coins were not merely ornamental, but actually bore illustrations meaningful for the city in question. Thus the image of an Egyptian god on a civic coin most probably reflects the approved presence of that specific cult (Talloen 2001, 293-295). Civic coins with the effigies of Isis, Serapis and Harpokrates were also issued at Sagalassos, the ones retrieved dating to the first three quarters of the 3rd century AD. Terracotta figurines and figurative depictions on vessels have been dated as early as the 2nd century AD. Contacts between Pisidia and Egypt were already established in Hellenistic times, but regions that were not under direct Ptolemaic control would probably require the unification of the Mediterranean world under the *Pax Romana* before being in a position to actively introduce Nilotic cults. But the variety of sources depicting Egyptian deities in Sagalassos points to a "*cult rooted in religious life rather than in the civic officials' eagerness to comply with an Imperial directive*" (Talloen 2001, quote from 319).

[726] Manfred Clauss (2012, 73-74) emphasizes the importance of *das Wasserwunder* in the cultic mysteries associated with Mithras: "*Die große Bedeutung des Wassers für die verschiedensten Kultakte dokumentieren neben solchen Bildern die Steinbecken und Zisternen, die Darstellungen des Oceanus sowie die offensichtlich gesuchte Nähe der Heiligtümer zu einem Fluss oder einer Quelle. Wasserbecken gehörten offenbar zum Inventar aller Mithräen.*" Some examples are given by the author: two water basins in Strasbourg-Königshoffen (Vermaseren 1956-1960, no. 1368 and no. 1369) and a shell-shaped basin in Bad Deutsch-Altenburg (Vermaseren 1956-1960, no. 1691)

[727] Bjørnebye 2007, 13-20, 56; Beck 2007, 102-152; Clauss 2012, 48-64.

[728] Personal communication with Peter Talloen.

[729] A series of soundings planned for the 2015 field campaign will shed more light on the earliest phase of use of the building and its original setting.

[730] Wild 1981.

[731] Verboven 2011.

[732] Smith 2003, 95.

Sagalassos, the *proasteion* would provide the perfect breeding ground for an association sprouted from artisanal/funerary roots to be inspired by a 'foreign' cult condemned to flourish in the outskirts of the town. There are many manifestations of the Isis cult throughout Pisidia and the archaeological dataset of Sagalassos shows that the goddess was also well-attested here in the form of figurines, pottery decoration and as a small marble bust. These findings are both official and private in character, implying that the cult did not remain obscure, but that at least at some point all social classes were involved in the spread and acceptance of this cult.[733]

The location, architecture and furnishings of the original building in any case suggests a (semi-)public purpose[734] in which water played an important, presumably cultic, role. The basic *Saalbau* in principle could house a wide variety of communal associative activities, thus leaving a lot of functional options open. Associative groups could be based on professional (mainly traders and artisans), religious (cultic societies), territorial (residents that share a city quarter, *insula*, *etc.*), ethnic (resident and non-resident foreigners, *etc.*) or social (youth groups, *Augustales*, *etc.*) grounds. The erection of the PQ 2 building in the Eastern Suburbium could have been inspired by either a professional or funerary background – considering its location within the potters' quarter and Eastern Necropolis – but also territorial (the Eastern Suburbium is a clearly defined and discernible part of the city), religious (for 'marginal' cults expelled from the city centre) or even social (in association with the Theatre, where social groups might occupy their own section) reasons might have warranted its construction. Nevertheless, the link with a professional or religious-funerary association seems the most plausible. In any case, these organisations were almost always multifunctional and every social grouping was at the same time a cultic community[735], while their core activity might have been either festive, funerary, economic or – illegally – political.

In order to keep options open in regard to a more definite identification of this building in the future, it is safe to call it a '*schola*', if we use this term in its modern scholarly sense as a '*Vereinshaus*', the communal building or 'club house' of an ancient association.[736] Much in the same way we can apply the term '*collegia*' to these types of social, cultic and professional associations, while the actual terminology used throughout Antiquity, both in Greek and Latin, to denominate the associations as well as the places where they gathered is varied.[737] The wide variety of names reflects the diversity of their *raisons d'être*; however, scholars agree upon the development of social interests in the broadest sense as an encompassing quality offered by all associative life.[738] *Collegia* were

[733] Talloen 2001, 319.

[734] It is suitable to apply the term '(semi-)public' to the '*schola*' type of buildings: there were restrictions for participating in events (*e.g.* belonging to the target group, membership fees), but the location was neither private (like households, workshops, *etc.*) nor truly public (like markets, theatres, baths, *tabernae*, *etc.*).

[735] Scheid 2011, 535.

[736] Bollmann 1998, 47.

[737] For an overview of the possible Greek denominations, see Van Nijf 1997, 8-11 for professional *collegia* and Arnaoutoglu 2002 and Smith 2003, 89-90 for other types of Greek *synodoi*, *synergasia or thiasoi*; for Latin denominations, see a.o. Ausbüttel 1982, 17 ff; Smith 2003, 95-97. In scholarly articles, also the ones concerning the Roman East, '*collegium*' is the most commonly used term, which is why we are also applying it throughout this thesis. The most common terms for these associations, as used in Latin legal texts and inscriptions, are '*corpus*' and '*collegium'* (Bollmann 1998, 22). In many cases, groups were referred to by their profession or by a personal name, written in plural, while also '*schola*' itself can refer to an association instead of a building (Bollmann 1998, 22 Footnote 4; 47).

[738] Scholars appear to agree that social life – and hopes for social advancement – were driving forces behind people becoming members of *collegia*, but there are ongoing discussions and ambiguities concerning the aims of *collegia* themselves. The 'social purpose' is regarded as a common trait among *collegia*, but scholars differ in attempting to denominate secondary tasks of *collegia*. One of the most debated questions is to what extent professional *collegia* could wield any politico-economic influence (in which case comparisons with the medieval guilds are generally drawn, see a.o. Waltzing 1885-1900, I, 333; MacMullen 1974, 18-19, 72-77; Van Nijf 1997, 11-18; Arnaoutoglu 2002; Perry 2011; Verboven 2011). The importance of *collegia funeratica* as the main background behind the foundation of many clubs is another hot topic (*e.g.* Waltzing 1895-1900, I, 256-300; Ausbüttel 1982, 59-71; Hopkins 1983, 211-217; Van Nijf 1997, 31-69). Since we do not possess enough data to attribute a specific type of *collegium* to the PQ 2 *schola* and thus cannot offer any direct contribution to these debates, we will therefore not go into detail. However, we have the impression that some discussions suffer from a depreciation of the potential diversity and versatility of associative life; in other words, a large spectrum of *collegia* would still have allowed for a large overlap in aims, activities and tasks. John Scheid mentions how "*pretty well every social grouping was at the same time a cultic community*" (Scheid 2011, 535), while it was also "*through religion that one belonged to a community*" (*Ibidem*,

indeed an important part of the civic life of the so-called *plebs media*, a very broad band of society situated between the *plousioi* (rich elite) and *penates* (destitute).[739] The *schola* might have been erected by a *collegium* itself – whether or not with the financial aid of an elite benefactor/patron – but might also be a building in municipal hands that is rented out to groups who are in need of facilities to organise their activities. Historian Jean-Pierre Waltzing described '*scholae*' around the turn of the 20th century as rectangular, round or halfround spaces, with benches all round and containing one or more altars.[740] Beate Bollmann, writing almost a century later, established that this definition was too narrow and that, actually, all attempts at defining a *schola* would be inadequate 'by definition'. In fact, for banquets and other social meetings, each closed and weather protected space could do – *e.g.* the substructures of a theatre or a secluded part of a stoa – while for communal worshipping an altar, podium and/or apsis might be added to the desired furnishings.[741] The PQ 2 building's architectural layout best fits the *Saalform* type described by Bollmann[742], which were mostly constructed during the 1st century AD, with a hausse during Julio-Claudian times.[743]

Certainty with regard to the identification as a *schola* can only be obtained through deciphering associated inscriptions and to some extent through the iconography of figurative depictions or cult statues[744], which is also why many presumed *scholae* cannot be linked with a specific *collegium* and *vice versa*. However, even if Bollmann does not define a specific architectural shape for the *scholae*, she mentions four indications that can help in the identification of a *schola*[745]:

- a decentralised location of the building;
- modest dimensions;
- a more exclusive character compared to the known municipal cultic spaces;
- a subsequent rearrangement of an older building.

The first two criteria are clearly met by the PQ 2 *schola*. The third one is harder to assess solely on the basis of architectural data. The fourth criterion appears not to be valid in our case study, but rearrangements and adaptations to the original building itself will in fact play a part throughout the next phases of use of the building. Indeed, the building appears to have undergone a complete makeover around the end of the 1st century AD, suggesting a change of use as well (see § 7.5.1).

535). In fact, you might add that most communal activities, even regular meetings and banquets, would to some extent have been shrouded in cultic rules and rituals. Indeed, while the reasons behind the foundation of a *collegium* are varied, *i.e.* (a combination of) funerary, religious, professional, economic, social, territorial and political factors, the similarities in the outcome are striking: clubs consisted of paying members who regularly took part in communal events of a social, cultic or practical nature. Banquets and festivals – one could say 'feasting' – for example, appear to have been activities shared by all *collegia*, whether they stem from a professional, religious, territorial or social rationale.

[739] The term '*plebs media*' should not to be confused with the terms 'middle class' or 'bourgeoisie' in their modern senses (Van Nijf 1997, 20-22).

[740] Waltzing 1895-1900, I, 221.

[741] Bollmann 1998, 47-48.

[742] See Footnote 720.

[743] Bollmann 1998, 105: the earliest examples (*Augustea* in Tivoli and Herculaneum) date to Augustean times.

[744] Bollmann 1998, 48-49: "*Sie kann nur erfolgen, wenn außer dem Baubefund aussagekräftige Teile der Ausstattung vorliegen oder wenn sich für die Architekturreste formale Kriterien herauskristallisieren lassen, für diese Gebäudegattung als typisch gelten können.*"

[745] Bollmann 1998, 49.

6.5.3 A larger complex of communal buildings?

Structures west of the *schola*

As seen in § 6.5.1, site G was part of a larger complex containing several structures with the same orientation in the southwestern quarter of the Eastern Suburbium. Also the area immediately adjacent north and northeast of site G might be considered as one large complex of structures (**Fig. 6.64**). The observation of their identical orientation is in this case all the more remarkable since they cover quite an accidented terrain. Parallel to the west wall of the *schola*, at a distance of 2.15 m, the corner of a smaller monument was encountered in the same sounding (**Figs. 6.56**/**6.63**). This structure was most likely erected at the same time as the larger PQ 2 building to its east. Only a small part of the structure could be exposed during the 2014 campaign. Even though it is at least partially constructed of ashlars, it does not show up on the maps produced by the geophysical survey. A large *c.* 30 by 24 m structure more to the west (northeast of the Theatre) has the same orientation and leaves little space in between (a gap of *c.* 9.5 m between both larger structures) for a large monument, especially since a street ran in between both structures as well. We are here more probably dealing with the remains of a freestanding monument, such as an altar, podium or tomb.

The dimensions of the structure to the west and its apparent lack of internal walls – based, however, solely on the geophysical survey – might mean that we are dealing here with an open enclosure, possibly not unlike the (funerary) enclosures of site PQ 1 and PQ 4 (see resp. § 6.4.2 and § 7.4.2). No excavations have been performed within this structure and its possible chronological and relational association with the PQ 2 site is thus only based on similarities in orientation and location. Its vicinity with the PQ 2 might be suggestive of a closer link between both structures. In most cases the members of *collegia* were buried in plots of land or in tomb complexes owned or maintained by the *collegium*.[746] Those burial grounds were more often than not located in the immediate vicinity of, or even below, the associated banquet halls, where the commemorative meals would have been organized.[747] Nevertheless, such hypothetical identification of these structures west of the PQ 2 site can only be confirmed or refuted by additional excavations.

Fig. 6.63. View from the east on the corner of an ashlar structure, probably a free-standing monument, *c.* 2.15 m west from the *schola*.

[746] Smith 2003, 101-102, 104.
[747] Hopkins 1983, 214; Van Nijf 1997, 43.

A large building northeast of the site G complex

To the southeast of PQ 2, south of the coroplast workshops, the geophysical survey documented a multi-roomed large rectangular structure (*c.* 35.5 north-south by 38 m east-west). This building as well follows the same orientation of the PQ 2 *schola*, even though this seems to go against the natural inclination of the topography, which slopes down steeply towards the Central Depression in a southeastern direction (**Fig. 6.65 a**). The only visible remains at the surface consist of the partially *in situ* doorposts of a monumental entrance, located in the middle of its western wall (**Fig. 6.64**). During the 2011 excavations at the site of the PQ coroplast workshops, the outline of the northwestern corner of the building was exposed along the southern edge of the trench. In addition, two abutting small rooms, with the same orientation (deviating from the workshop remains) were partially exposed, as well as another set of walls identified as belonging to the same construction phase. Those small adjacent rooms were entirely constructed of mortared limestone rubble walls – in contrast to the use of mudbrick-on-stone-plinths in the case of the pottery workshops. The inner faces of the walls were smeared with a lime-based plaster. The rooms appear to have been covered with a vaulted ceiling of tufa blocks, of which the lower two courses were still preserved on one of the walls and of which individual blocks were encountered within the deconstruction layers.

The archaeological and geophysical data suggest that the abutting rooms were not actually part of the large rectangular building (**Fig. 6.65**), but should be considered as either secondary rooms, built at a later stage, or as remains of an individual structure built against the already existing main building. No excavations took place inside this building itself, but a section of the outside face of the northwestern corner was exposed. This structure appears to have been entirely erected in mortared limestone rubble (with the occasional use of roughly worked ashlars), which were built on top of a protruding mortared limestone foundation. The regularity and size of the complex, the used building techniques and structural quality of the remains are strongly reminiscent of the walls encountered at the PQ 2 *schola* and the site G complex.

The small abutting rooms – and thus also the adjacent main building – clearly predate the late 4th century AD coroplast workshops (see § 8.3.2). One of the small spaces was exposed to its original floor level, which consisted of compacted earth. One of the clearly distinguishable foundation trenches was excavated and yielded ceramic material dated to 50-75 AD, providing a *terminus post quem* for the construction of this wall. Based on the material encountered in the infill, it appears that the rooms were already abandoned in the 2nd century AD.[748] Since no excavations took place inside the main monumental building itself, the acquired dates do not necessarily reflect the time of construction and period of use of the large building itself. The construction phase of the main building was either contemporary with or predating the small rooms to its northwestern corner. It cannot be established when the large building was abandoned, but the geophysical survey clearly shows the presence of four kilns in the eastern half of the building. Since it is unlikely that this monumental building would have housed a complex of workshops in its original state, at some point in time those kilns must have been installed into an abandoned and probably partially ruined structure.

Purely based on its shape, as derived from the geophysical survey, the complex can be described as an almost square building, with a central courtyard/hall surrounded by smaller rooms on three sides and a monumental entrance in the middle of its western wall. Several types of buildings, concentrated around a central courtyard, fit this description. However, its location within the Eastern Suburbium, at the intersection of an area of (semi-) public monumental architecture and the surrounding funerary-artisanal quarter, seems to exclude both residential buildings and monumental infrastructure linked primarily with ancient city centres.

[748] Murphy & Poblome accepted. See also the PQ 2011 internal excavation report by Elizabeth Murphy.

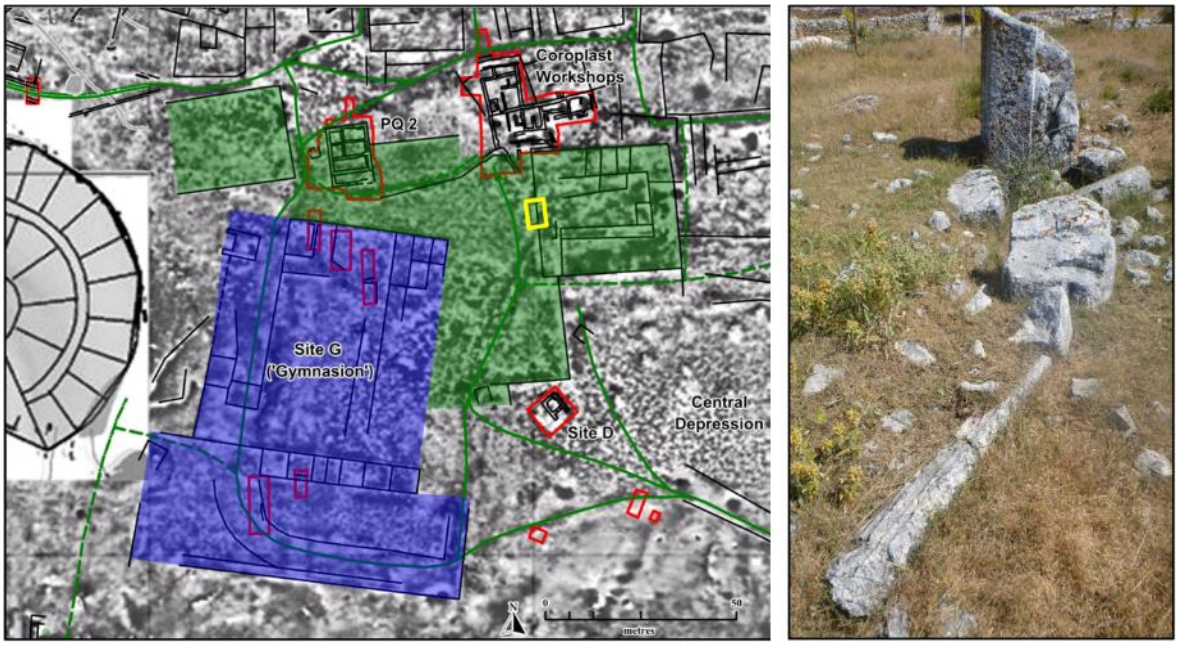


Fig. 6.64 a/b. The southwestern quarter of the Eastern Suburbium, with the indication of the presumed (semi-)public structures. There are clearly two sets of buildings, each with their own predominant orientation (shaded in blue and green). The *schola* of site PQ 2 seems to be part of a larger complex of buildings (green), with the same orientation, dating to the 1st century AD. The northwestern corner of one of those monumental buildings was excavated in the coroplast workshops' trenches in 2011. The presumed monumental entrance to this building, indicated in the yellow square, is shown partially *in situ* in the picture on the right.

Fig. 6.65 a/b. The results from the coroplast workshops excavations and (simplified) interpretation of the geophysical survey plotted on the topographical map (left) and on the 2013 orthophoto of the area (right). The survey southeast of the coroplast clearly shows the presence of a large multi-roomed building (blue), the northwestern corner of which was exposed inside the coroplast trenches. The white arrow shows the location of a monumental entrance still visible at the surface (Fig. 6.64 b). This large building appears to be extended towards the south with a large terrace overlooking the Central Depression (Fig. 6.64 a). Some small rooms (green), following the same orientation and also predating the coroplast workshops, were partially exposed in the coroplast trenches. These, however, appear to be built against this large structure without being an integral part of it.

The building closely resembles the 'hall type' baths described by Fikret Yegül, in which the "*middle of the building is occupied by a large and distinctive rectangular hall into which open a number of heated rooms on one side, and unheated smaller on the other.*"[749] An identification as baths might explain the awkward siting, the use of terraces and its orientation.[750] On the other hand, the geophysical map does not provide any indications for a substantial water supply system serving the building, which would have been a prerequisite for a bathing complex. Alternatively, when keeping in mind the identification of the building excavated at site PQ 2, it is also possible that we are dealing here with another type of *schola* building. More specifically the type of building Beate Bollmann describes under the term '*Bauten mit Portikushöfen*'[751], arguably the 'most classical' type of *collegium* building. Both Yegül's 'hall type' baths as well as well as Bollmann's '*Bauten mit Portikushöfen*' come in dimensions very similar to this building in the Eastern Suburbium. It is not implausible that a type of monumental, multi-purpose *schola* was available in the Eastern Suburbium for a variety of groups and activities. Other identifications cannot be excluded either and might fit within a suburban context: *horrea* and other storehouses, inns, *stationes*, *etc.* But the relative monumentality of the preserved entrance seems to point towards a more public function (baths?) or richer context (*schola*?).

[749] Yegül 2010, 176.

[750] If we are indeed dealing here with thermae, then the warm baths would be located south of the central hall. The local topography, which slopes down steeply towards the southeast (the height difference between the northwestern and southeastern corners of the building sums 8 m), would have required that the southern row of rooms were constructed on top of an artificial terrace, very much like the Imperial Baths of Sagalassos in the city centre. By raising the heated rooms above their surroundings (Central Depression), they would profit ideally from the sun, even to such an extent that it might explain the buildings rather illogical orientation (the Imperial Baths of Sagalassos east of the Lower Agora have an identical WSW-ENE orientation). This type of baths is most common in the coastal sites of Cilicia (Anemurium, Antiochia-ad-Cragnum, Syedra, Lyrebe), but is known throughout other regions of Anatolia and in isolated cases in mainland Greece and (late antique) northern Syria. Also the baths of Lycia and Pamphylia, containing parallel and projecting apsidal halls opening from a central hall, might be seen as a regional variation. Ordinarily, the Cilicia examples do not possess a *palaistra*, which Yegül links with the harsh local climate (Yegül 2010, 176-180). In the Eastern Suburbium case, the building appears to be extended with an artificial terrace to its southwestern corner, which might have served as a *palaistra*. It was not uncommon for each district/quarter of a city to have its own bath complex, and the Eastern Suburbium of Sagalassos, with its bustling funerary-artisanal character, might have been equipped with its own set of baths.

[751] Bollmann 1998, 58-75.

7 ROMAN IMPERIAL PERIOD

From the second half of the 2nd century to the first half of the 4th century AD (*c.* 150 – *c.* 350 AD)

7.1 Introduction

This chapter roughly covers the second half of the Nerva-Antonine dynasty and the subsequent 3rd and first half of the 4th century AD, coinciding with the Sagalassos Red Slip Ware (SRSW) phases 4-6. For an overview of the relation between different chronological referencing systems, see **Tables A-B** in the 'General Remarks'.

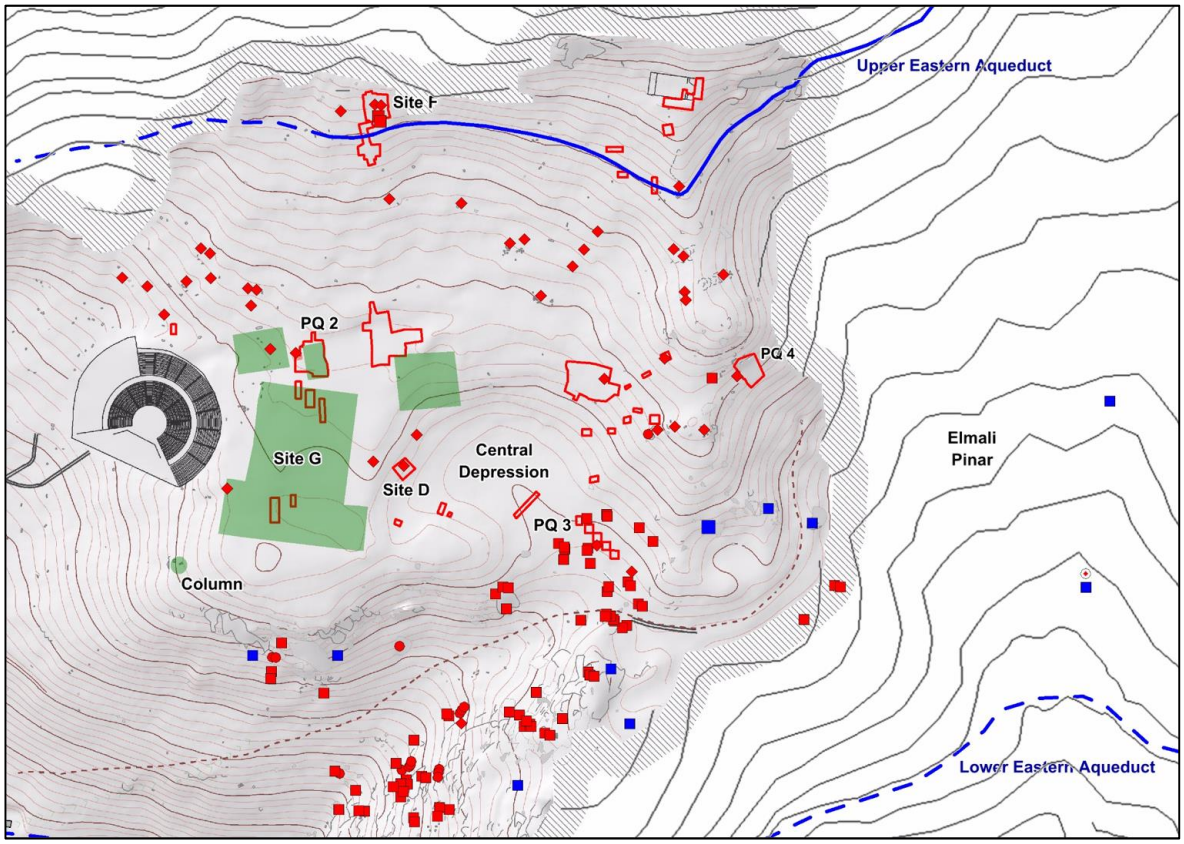
The chapter opens with an overview of the infrastructural accomplishments (see § 7.2) in the Eastern Suburbium, including a paragraph on the upkeep of the street network (see § 7.2.1), but with the eastern aqueducts as the main focus (see § 7.2.2). The study of the aqueducts implies broadening our horizons beyond the actual *proasteion*, to include the whole Akdağ mountain massive where the aquifers spring. Although there is no reason to assume that the crafts were not as actively practised as in previous and subsequent periods, we possess relatively little data directly related to artisanal activities during this period. Most of our information and discussions resulting therefrom are presented in the previous (see § 6.3) and following chapters (see § 8.3), which is why this chapter will only shortly reflect on the continuity of activities (see § 7.3). The funerary culture of this period needs a historical introduction in order to outline the shift(s) in burial customs (see § 7.4.1). Examples from the Eastern Suburbium further include the *naiskos* tomb at site PQ 1 (see § 7.4.2), the 'tomb-lined street' at site PQ 3 (see § 7.4.3), the *aedicula* tombs within the Eastern Necropolis (see § 7.4.4), the family tombs of both sites D and F (see § 7.4.5), the pit burials at site F and PQ 4 (see § 7.4.7) and overview of other types of monumental tombs (see § 7.4.6), pit inhumations (see § 7.4.7), *sarcophagi* (see § 7.4.8) and *arcosolia* (see § 7.4.9), followed by a discussion of the evidence (see § 7.4.10). Most of the information on the communal presence within the Eastern Suburbium for this period comes from the PQ 2 *schola*, which underwent a lot of changes to its original plan in order to be used as a banquet hall (see § 7.5.1 - § 7.5.3). In paragraph § 7.5.4 we have a short look on the continuity of the other communal buildings within the southwestern quarter of the *proasteion*. Finally, in § 7.5.5 we present the limited information available for the honorific column erected southeast of the Theatre.

Most of the archaeological sites within the Eastern Suburbium provided data for this chapter: sites D and F are included with their family tombs, site PQ 1 east slope workshops with the *naiskos* tomb, site PQ 2 with the 'banquet hall' and sites PQ 3 and PQ 4 with their burial compounds. Moreover, this chapter deals in some detail with the Eastern Necropolis, since most of the funerary monuments visible at the surface can be dated to this period. Logically, we draw a lot of data from Veli Köse's surveys and studies[752] on the *necropoleis* of the Sagalassos. The absence of any workshop-related activities in this chapter might seem remarkable, but should not be understood as a reference to a dwindling scale of the artisanal output during this period. In fact, we already established that the east slope workshops were active throughout the Early and Middle Roman Imperial period, and would not even be impeded by the construction of the *naiskos* tomb on parts of their original plot (see § 6.3.2). It is furthermore only justified to suggest similar developments for other workshops within the artisanal quarter. Since we covered those aspects in the previous chapter (see § 6.3), we will not reopen the discussion for this period. In the following chapters, however, we will discuss the new artisanal infrastructure erected at both sites PQ 1 east slope workshops and PQ coroplast workshops (see respectively § 8.3.1 and § 8.3.2). Similarly, we are not covering the lifecycle of the operational site G complex, which we feel we have discussed in detail in the previous chapter. However, the eventual abandonment of the site will allow us to pick up this topic in the following period (see § 8.5.2).

[752] Köse 2002 and 2005a.

Apart from the excavations and test trenches, the data set was further supplemented by the various surveys performed in the area (field surveys, geophysical surveys and study of the *necropoleis*), physical anthropological work, mtDNA-research and material studies. This study is furthermore greatly indebted to the valuable work done by cartographers, geographers, geologists and palaeobotanici who studied and mapped the study area and the wider region.

As is the case with the other chapters of Part 2 of this thesis, the overarching discussions will be reserved for Ch. 10, in which the data presented in detail in these chapters can be reflected not only against the wider geographical and historical setting, but can also be understood in a more trans-chronological framework.



Map displaying the major sites and features mentioned throughout Ch. 7. The outlines of the excavated trenches are indicated in red, the aqueducts with blue lines (dashed line for uncertain reconstructions), the public quarter in shaded green, the limestone quarries with blue squares and the funerary features in red (squares for *sarcophagi*, circles for *arcosolia*, diamonds for monumental tombs, a circle-dot for the votive inscriptions in Elmalı Pınar).

7.2 Infrastructure

7.2.1 Street network

As discussed in § 2.3.2.1, most of the street layout of the Eastern Suburbium seems already to have been developed in Early Roman Imperial times, based on the existing pre-Roman terraces, the very fast developing potters' quarter and the Early Roman Imperial lay-out of the (semi-)public 'monumental' southwestern quarter of the suburbium. The construction of the upper eastern aqueduct would create an evenly and only slightly sloping stretch of land through the Eastern Suburbium, free of constructions, which would be ideal to be incorporated into the street network of the quarter. No evidence for any hardened surface was encountered at the exposed aqueduct sections at site F[753] or within sounding EA 1[754], however. The road would thus have been restricted to a beaten track, which is no surprise since this track of land does not connect major points of interest.

7.2.2 Water infrastructure[755]

With the construction during the 2nd century AD of several new public buildings that required a constant supply of water, *e.g.* the *nymphaea* of the Upper and Lower Agora and especially the large Imperial Roman Baths, came an increased need to tap the water potential from springs further away from the city centre.[756] *"In Antiquity, water-related monuments must have formed some of the more characteristic features of the urban landscape of Sagalassos and no doubt held great symbolic importance for the local community, as well as started to form part of their cultural identity*"[757], as stated by Jeroen Poblome. Water was not only the iconic feature of monumental 'uptown' Sagalassos, but was of course also an essential commodity in the daily life of ordinary citizens and was of crucial importance to the local craft industries as well.

Sagalassos, since Early Roman Imperial times, could count on the resources of a *c.* 1.200 km² large territory, including large parts of the mountain range to the north.[758] Most probably the springs within and closest to the city of Sagalassos would have been reserved for the provision of drinking water (*e.g.* the Late Hellenistic Fountain House), so that the city could not be cut off from its water supply in the case of a siege. More decisive action and technological prowess were required, though, to capture and guide the water from additional aquifers further away into the city. At least five known aqueducts supplied the city of Sagalassos, though these most probably did not all function at the same time. Two or three aqueducts and their respective branches entered the city from the east.[759] The best preserved of these, the upper eastern aqueduct, is the one that ran through the higher

[753] Waelkens *et al.* 1991, 206-208; Waelkens *et al.* 1992, 92.

[754] Martens & Vyncke 2007, 171-172.

[755] Most of the information concerning the eastern aqueducts of Sagalassos comes from reports published in the *VIII. Araştırma Sonuçları Toplantısı* (Waelkens *et al.* 1990c, 269-272), in *Anatolian Studies* 40 (Waelkens *et al.* 1990a , 196-198) and in *Sagalassos III* (Owens 1995).

[756] An older, smaller bathing complex predates the Imperial Baths; furthermore, already since Augustan times there might have been a *χρήνή* (fountain house) along the northern edge of the Upper Agora. Marc Waelkens proposes that the construction/alteration of two or three fountain houses under Augustus would already have required the steady water supply by an aqueduct (Waelkens 2016, 326). However, he also mentions that a local aquifer was probably the (original) source of the only preserved *χρήνή*, *i.c.* the Late Hellenistic Fountain House). This fountain house was altered in Augustan times to divert a part of its supply, presumably to feed the predecessor of the Antonine Nymphaeum at the Upper Agora. This required the floor of the drawing basins of the Late Hellenistic Fountain House to be raised because there was apparently less inflow of water (Waelkens 2016, 324-326). The latter observation does not seem to favour a steady supply from an aqueduct. Even if there might already have been a need for (an) aqueduct(s) in earlier times, it would certainly have increased with the construction of new and/or larger public buildings.

[757] Report *Application for the extension of the first degree archaeological zone towards the east of Sagalassos* (2012) by the Archaeological Museum of Burdur and the Sagalassos Archaeological Research Project of the University of Leuven, available through *Structural Determinants of Economic Performance in the Roman World* (SDEP).

[758] The fact that this major aqueduct is capturing water from a source that is located outside the known territory of Sagalassos (*i.c.* the northern mountainsides of the Ağlasun mountains) raises questions concerning the influence of Sagalassos over the wider area, all the more so because this aqueduct was most likely serving ostentation monuments rather than serving as a vital water source.

[759] Edwin Owens describes six aqueducts to the east and west of the city (Owens 1995), but it is not certain whether the middle eastern aqueduct he mentions was ever finished (see further in this paragraph).

stretches of the Eastern Suburbium. This might have been the same for the middle aqueduct, which appears to have run parallel to the upper channel. However, no traces have been encountered within the Eastern Suburbium and it is possible that this aqueduct might have been left unfinished and subsequently replaced by the upper aqueduct (see further). The lower eastern aqueduct, finally, can only be reconstructed on the basis of the descriptions of early reports, since most of the physical remains are no longer visible/accessible (see further).

Upper eastern aqueduct

The upper eastern aqueduct of Sagalassos is the best preserved of the aqueducts that entered the city from the east. A 2012 survey aimed to locate and document archaeological features on the mountain flanks of the Ağlasun and Akdağ Dağları resulted in a.o. the discovery of the main source feeding the eastern aqueducts, the cistern capturing and distributing this spring (**Figs. 7.3-7.4**), as well as many newly discovered preserved sections of the channel. The course of the main channel – the upper eastern aqueduct – can now be reconstructed over a distance of *c.* 14 kilometers (*c.* 20 km including its bifurcations), adding to the already known sections in and immediately east of the Eastern Suburbium (**Figs. 7.1-7.2**).

Edwin Owens was the first to document the aqueducts of Sagalassos in depth. He identified a (now dry) spring as the possible starting point for the aqueduct (**Fig. 7.2** no. 1), even though he already acknowledged that the aqueduct might originate further east, collecting the water from several springs. Indeed, the most eastern indications for the aqueduct he could discern at this point consisted of a Y-shaped junction, where two channels apparently converged.[760] The continuation of the aqueduct further east was confirmed first in 2000. The aqueduct indeed must have tapped the water from several springs more to the east, where at least five known aquifers were located east of the city, at an adequate altitude to supply the aqueduct with an average discharge of water of *c.* 60 l/s.[761] However, the accumulated flow rate of these aquifers still did not justify the size of the channel and during the 2012 survey the origins of the aqueduct could be pushed further around the Akdağ Massif[762], which would allow for the access to even more remote springs and the identification of the Başpınar spring (an apt modern topographical name meaning 'Main Spring') as the source of the upper eastern aqueduct.

Approximate coordinates gathered from the source at Başpınar show a *c.* 105.5 m difference in height between the starting point of the aqueduct and the point where it enters the Eastern Suburbium of Sagalassos. This accounts for an average slope of 7.5 ‰, which is in line with the minimum 5 ‰ slope recommended by Marcus Vitruvius for aqueducts.[763] The water from the spring at Başpınar was captured through three ashlar constructed inlets into a large cistern, measuring 1.8 m in width and 9.5 m in length (**Figs. 7.3-7.4**). The *c.* 0.80 m wide walls around the cistern were constructed of large, mainly undressed, limestone blocks. The southern, back wall of the cistern was reinforced with an additional 1.30 m wide wall, most probably with both the aims of reinforcing the upslope wall and preventing debris from falling into the basin. The outlet of the cistern could not be discerned and must have been part of the no longer preserved upper parts of the structure.

Both the rock-cut and constructed sections of the aqueduct preserved beyond this point have average inner dimensions of 0.60 m wide and 0.90 m high, with 0.15 m wide ledges carrying the covering slabs (**Fig. 7.5**). These dimensions are similar to the final stretches of the aqueduct (see further), which suggests that the Başpınar spring probably provided the bulk of the total water flow of the upper eastern aqueduct.[764] This might not only be explained by a larger discharge potential of this spring, but also as an indication that the Sagalassos community

[760] Owens 1995, 92.

[761] An Steegen mentioned an average discharge of the eastern springs between 115 l/s (late summer) and 150 l/s (winter) (Steegen 2000, 641 Fig. 10, 646-647), but this number was adjusted in a later article by Femke Martens (Martens 2008b, 249 Footnote 11).

[762][762] Internal report *Application for the extension of the first degree archaeological zone towards the east of Sagalassos* (see Footnote 757).

[763] Vitruvius *De Architectura*, 8.6.1: "*half a foot in every hundred feet*". The topographical measurements of the Başpınar starting point of the aqueduct are obtained with a GPS camera with an average deviation of 5 m (heights measured: 1716 and 1715 m asl), while the height of the water channel where it enters the city is more precisely known (*c.* 1610 m at site F).

[764] These dimensions are similar to the dimensions of the final stretches of the aqueduct, near to the city, after all other bifurcations already converged with the main channel. No exact flow rate calculations could be made at the Başpınar source, but Sabri Aydal could establish that the amount of water flowing into the cistern was still 'considerable' in early September, which is the end of the dry season in the region (Aydal 2012, Akdağ survey internal report).

restrained from tapping into natural aquifers along the south face of the Ağlasun and Akdağ mountains, which might have been more appropriate to irrigate the fields on the lower flanks and in the valley below. On the other hand, there clearly were provisions made to capture water from the southern flanks as well (**Fig. 7.6**), from a.o. Karaoya Pınar and Kartal Pınar, possibly only put to use in case the Başpınar spring could not produce enough water by itself.

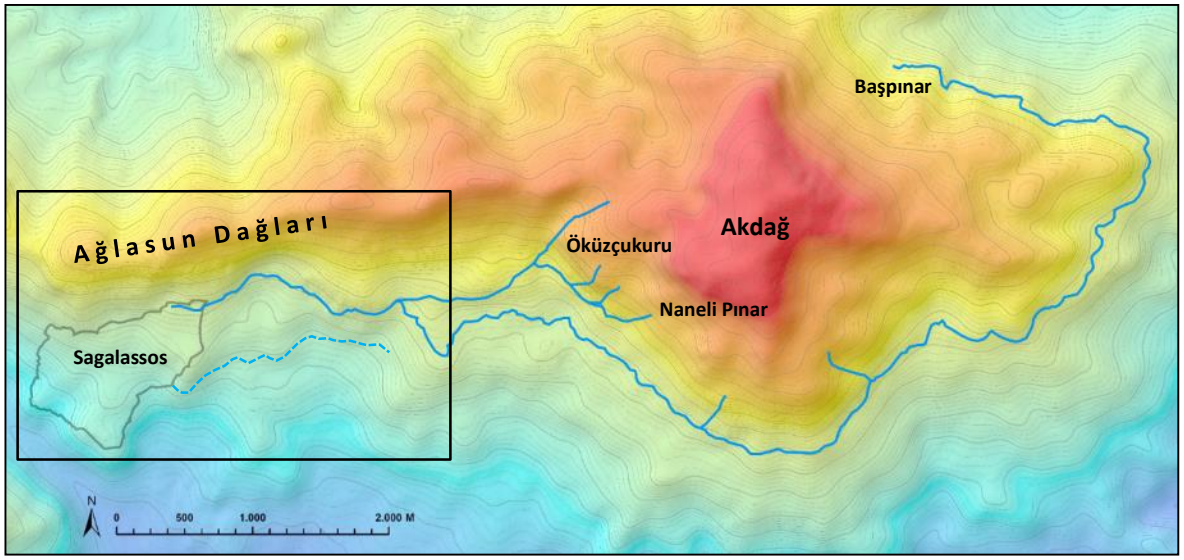


Fig. 7.1. The reconstructed course of the upper eastern aqueduct and its branches (full blue lines) circumventing the Akdağ massif, as it was for the first time mapped by Sabri Aydal in 2012. The channel, starting from its main source at Başpınar, follows the topographical features along the eastern and southern flanks of the Akdağ and Ağlasun Dağları). The course of the final stretch of the aqueduct, highlighted by the black rectangle, is represented in higher detail in Fig. 7.2. The lower eastern aqueduct is indicated with dashed blue lines. Map based on Joeri Theelen.

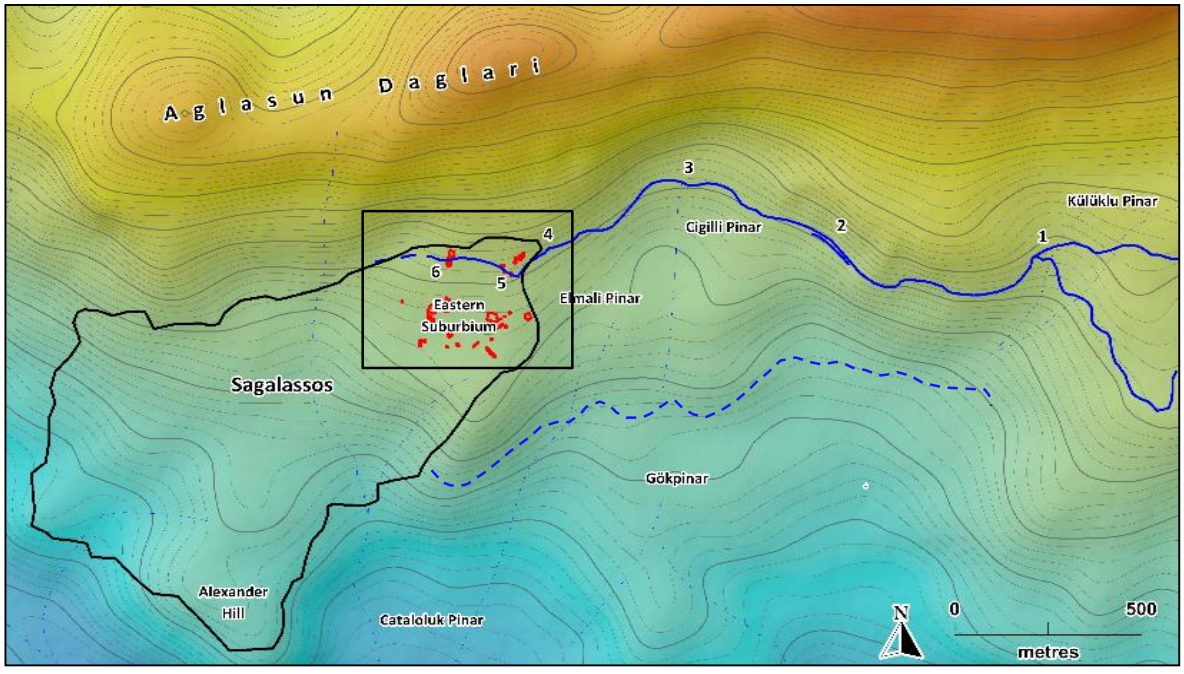


Fig. 7.2. The final stretch of the eastern aqueduct(s) of Sagalassos (thick blue lines) and its relation with current (seasonal) aquifers (thin dashed blue lines) in the immediate surroundings of Sagalassos (circumvented in black). The excavations and test soundings in the Eastern Suburbium are indicated in red. The numbers indicate the sections of the aqueduct described in the text. The double line at no. 2 represents the only known part of the middle eastern aqueduct. The part of the aqueduct that leads from the Eastern Suburbium into the city centre remains uncertain. The lower eastern aqueducts's course is a tentative reconstruction, hence the dashed lines. The part highlighted by the black rectangle is represented in higher detail in Fig. 7.10 and Fig. 7.15.

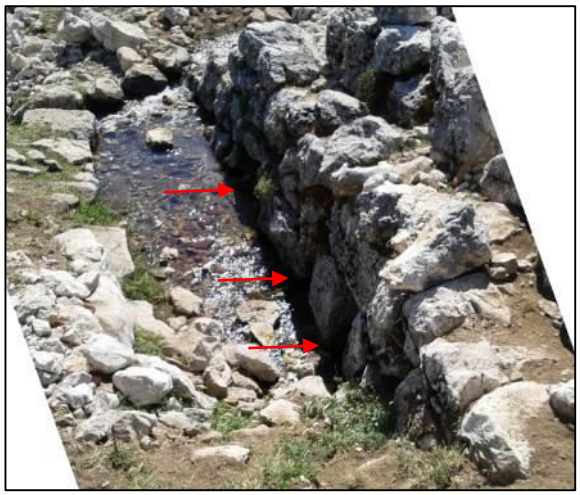


Fig. 7.3. View from the west on the large cistern capturing the water from the Başpınar spring through three inlets (red arrows). The additional reinforcement wall can be seen on the right side of the picture.

Fig. 7.4. View from the south on two of the three water supply inlets into the cistern. The opposite, downhill wall is less well preserved, making it impossible to locate the outlet channel.

Most of the upper eastern aqueduct consisted of a rock-cut channel, of which several sections are still visible, while constructed channels were used in sections that had to cross screes and open land, as was the case for the stretch of the aqueduct crossing the terraces of the Eastern Suburbium. No arched substructures appear to have been used along the route, nor sections that functioned under pressure; the natural slope carried the water to Sagalassos. Several still visible rock-cut parts of the upper eastern aqueduct could be studied close to the Eastern Suburbium, in the steep mountain sides where the Elmalı Pınar, Çiğilli Pınar and Külüklü Pınar catchment areas are rooted (**Fig. 7.2** nos. 1-4). One small stretch of rock-cut aqueduct was excavated (**Fig. 7.2** no. 4), as were the mortared rubble channel sections of the aqueduct exposed in the 2007 test soundings[765] south of the church at PQ 5 (**Fig. 7.2** no. 5) and during the 1990 excavation of site F[766] (**Fig. 7.2** no. 6).

Fig. 7.5. Inner view on a constructed section of the aqueduct.

Fig. 7.6. Rock-cut channeling of a tributary to the main aqueduct.

The first part of the upper eastern aqueduct that could be studied in detail is a *c.* 400 m long stretch along a steep rock face (**Fig. 7.2** no. 2). Due to the solidity of the rock the aqueduct was very well preserved. Also a *c.* 150 m long section of the middle eastern aqueduct could be traced along this rock face (see further). The bed of the aqueduct is between 0.40 and 0.90 m wide, while the depth is highly variable. When necessary and wherever

[765] Martens & Vyncke 2007.
[766] Waelkens *et al.* 1992, 92.

possible, the aqueduct builders made use of natural crevices in the rock that they widened and cut to the desired depth. At several spots along this 400 m tract of aqueduct the channel had to be cut more than 10 m deep. At other parts they had to deal with almost vertical cliffs, which meant that the aqueduct had to be completely cut as a ledge out of the rock face, with the rock wall serving as the inner wall and a low rock-cut parapet as the outer wall (**Fig. 7.7**). Due to its sheltered position pick marks are preserved along parts of the channel. Edwin Owens also identified horizontal lines at intervals of *c.* 1.50-2.00 m, which he interpreted as indicating the positions of the scaffoldings on which the workmen stood to cut the rock.[767]

At several spots along the channel fragments of the original coating could be studied. Aqueducts were generally lined with several layers of cement lining. The reasons for applying this elaborate coating were threefold: 1) diminishing the friction and disturbance of the water flow, 2) making the channel waterproof (preventing seepage and leakage) and 3) augmenting rigidity and reducing cracking. In Sagalassos, a thick, coarse layer of grey and rough-grained mortar would serve as the substratum, while a thin, outer layer of fine, reddish, hydraulic plaster would finish the lining. The aqueducts were also covered in order to prevent any possible intrusions (collapse, objects, cadavers, organic waste, *etc.*) from obstructing the flow or contaminating the water. At many points along the aqueduct remains of a narrow rebate were preserved. These obviously served as a ledge to support the covering of the channel. A gable-shaped covering by tiles is suggested (**Fig. 7.8**), based on the many (plaster covered) tile fragments encountered along the course of the channel and the find of a triangular shaped piece of plaster.[768] Indeed, there are no known tile sizes in Sagalassos that could cover a 0.90 m wide channel by itself. Large limestone blocks were used as slabs to cover the channel in the Eastern Suburbium (see further), but there are no signs for use of stone slabs in the rock-cut parts of the aqueduct.

Fig. 7.7. A part of the aqueduct gallery cut into the vertical rock cliffs, view from the northwest. The bottom of the channel is clearly exposed and 0.90 m wide at this point. Both the pendent back wall (left) and parapet front wall (right) of the channel are cut from the original rock. At other parts along this gallery the front wall is missing and was probably constructed of mortared, separate blocks. In the background traces of the stone cutters' axes can be discerned as parallel, sloping lines.

Further west along the aqueduct (**Fig. 7.2** no. 3) the channel had to pass a heavily weathered rock face with three large screes (the so-called 'Three Sisters') at its foot (**Fig. 7.9**). The aqueduct builders painstakingly kept the

[767] Owens 1995, 92-93.
[768] Owens 1995, 94.

aqueduct at a level above these erosion deposits, resulting in a rather shallow slope of 2.62 ‰ in comparison with the parts to the east (**Fig. 7.2** nos. 1-2: 14.39 ‰) and west (**Fig. 7.2** nos. 4-6: 12.21 ‰).[769] At present parts of the original aqueduct are engulfed by the screes, an indication for the ever-accruing erosion activity. This stretch of the aqueduct is more difficult to recognize in the landscape, since the channel is to a large extent filled with debris and most of the outer wall has disappeared.[770]

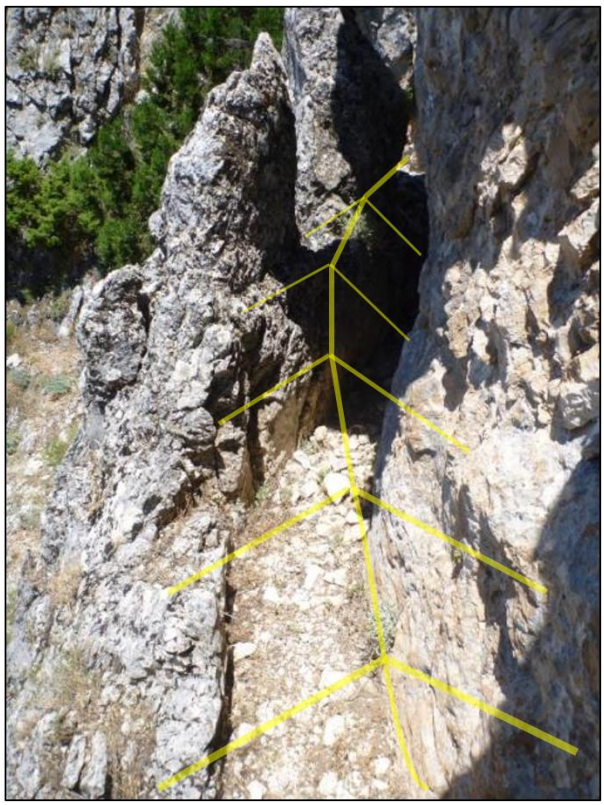


Fig. 7.8. A part of the aqueduct cut deeply into the rock face. Whenever possible the aqueduct builders profited from natural crevices in the rock that were manually widened and cut to adequate depths. In some cases these cuts were over 10 m deep. On both sides of the channel parts of the (eroded) rebates are visible on this picture. These supported the cover of the channel. Edwin Owens proposes a gable-shaped cover by terracotta tiles (dotted lines) for the aqueduct, based on the finds of various tile fragments and a triangular shaped piece of mortar.

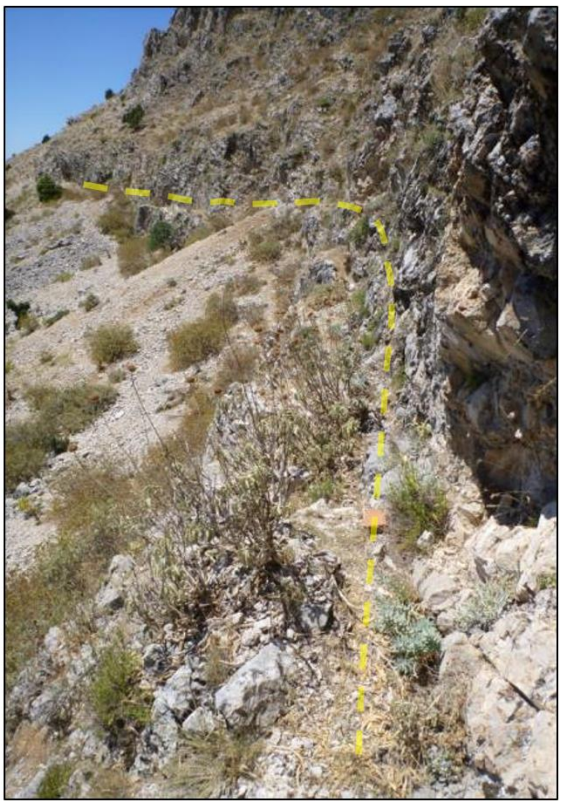


Fig. 7.9. The part of the slope between the aqueduct gallery and the Eastern Suburbium is characterized by three large screes ('The Three Sisters'). The course of the badly eroded aqueduct is indicated by the dotted line. The aqueduct builders put a lot of effort in keeping the channel above the erosion deposits, through retaining a very shallow slope (2.62 ‰). Nowadays parts of the aqueduct are submerged underneath these ever growing screes. In the foreground a terracotta tile fragment can be discerned, possibly part of the original (gable) covering of the channel.

A small section of the rock-cut aqueduct east of, but closely adjacent to, the Eastern Suburbium has been excavated in 2007 by Femke Martens (**Fig. 7.2** no. 4 and **Fig. 7.11**).[771] The channel was carved out to a depth of 1.82 m and had an interior width of 0.47 m. The mortar coating with a hydraulic plaster finishing was preserved to a level of 0.11 m above the floor, but originally seemed to have reached 1.04 m high. The bed of the channel was covered with a 8 cm thick mortar floor. The ledge in the inner wall showed that the channel was supposed to be covered, most probably with terracotta tiles of which several fragments were encountered.[772] The level of the channel bottom was barely 2.60 m below the channel bottom level 996 m more to the east (**Fig. 7.2** no. 2),

[769] Steegen 2000, 642 Fig. 12, 644.
[770] Owens 1995, 93.
[771] Waelkens 2008, 431-433.
[772] Martens & Vyncke 2007, 173.

resulting in a slope of 2.62 ‰ (see above).[773] The natural surroundings at this point are rather impressive; the aqueduct has to pass underneath a huge collapsed part of the rock face. Some *in situ* ashlars and survey finds of additional building material (limestone, brick and marble) and pottery (among which a figurine) suggest that this particular spot was materialised into a possible water sanctuary (see further).

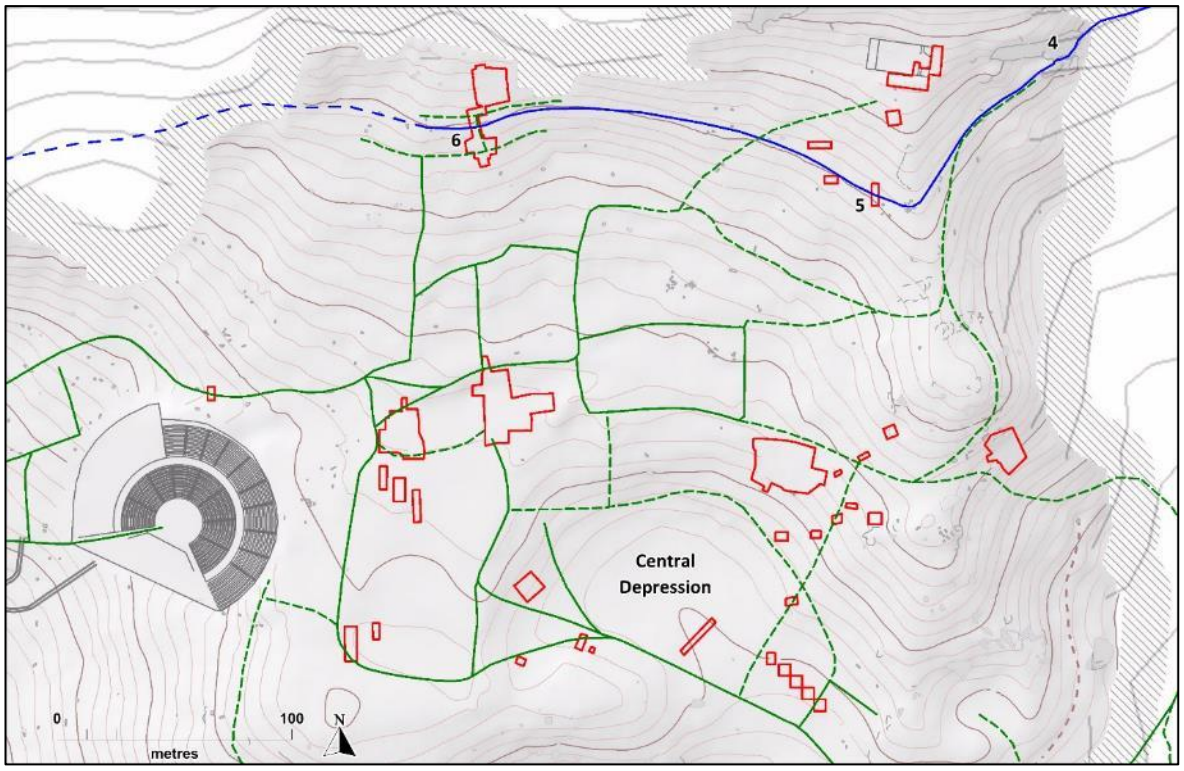


Fig. 7.10. Detail of the upper eastern aqueduct as reconstructed for its stretch within the Eastern Suburbium (blue). The excavations/soundings are indicated in red and the reconstructed street pattern in green. The numbers refer to the sections described in the text.

Where the upper eastern aqueduct passes through the higher stretches of the Eastern Suburbium (**Fig. 7.10**), an area consisting mainly of ancient screes, the aqueduct takes the form of a constructed channel. Both during the excavation of site F in 1990-1991 (**Fig. 7.10** no. 6) and during a series of three test soundings EA 1-3 in 2007 (**Fig. 7.10** no. 5) a section of the continuation of the aqueduct towards the city centre could be documented. The aqueduct as encountered in sounding EA 1 is solidly built of mortared limestone rubble, with dimensions similar to the eastern rock-cut sections (**Fig. 7.12**): the interior height was 0.70 m and interior width 0.475 m (as measured upon the remains of the mortar coating; wall-to-wall the width summed to 0.56 m). The system had a mortared floor of 9,5 cm thick and the walls were coated with a thick mortar finishing consisting of a *c.* 3 cm thick substrate of coarse, grey mortar and a coating of *c.* 0.5-1 cm of fine, reddish, hydraulic plaster. The channel was covered by mortared rubble, but the find of one regularly cut stone suggests that the original roof of the channel consisted of regular slabs (proof for reparations?). The aqueduct was constructed within a trench of *c.* 3.75 m wide, dug partially into the bedrock. After constructing the channel, the sides were abutted with thick benches of mortar (0.40 m wide to the north of the channel and 0.70 m to the south). This guaranteed a very solid construction. The 3.75 m wide trench was backfilled subsequently.[774]

[773] This falls below the minimum 5 ‰ slope recommended by Marcus Vitruvius for aqueducts (see also Footnote 763). That this should not have raised any problems is illustrated by most of the aqueducts of Rome, which have mean values of 1.3 ‰ (Owens 1995, 644).

[774] Martens & Vyncke 2007, 171-172; Waelkens 2008, 342.

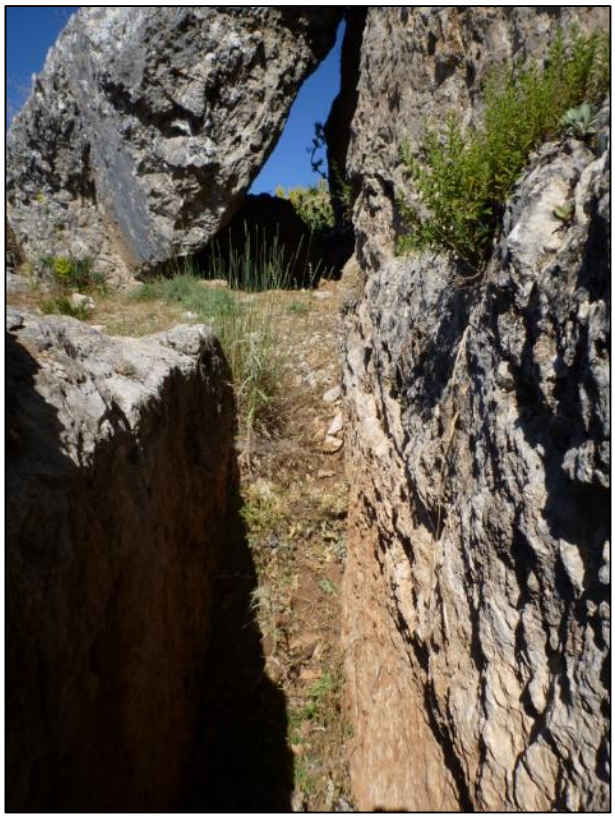


Fig. 7.11. A small excavated part of the aqueduct, probably the last rock-cut stretch of the aqueduct, immediately adjacent to the Eastern Suburbium (Fig. 7.10 no. 4). The channel had to pass underneath a large collapsed boulder. There are indications in the surroundings that this spot was enhanced into a place of worship, a possible water sanctuary.

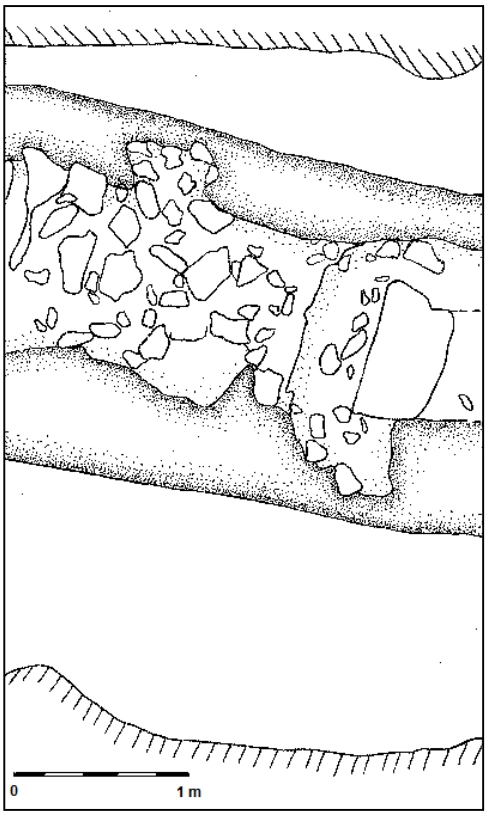


Fig. 7.12. Section of the aqueduct as encountered within the test soundings south of the church at site PQ 5 (Fig. 7.10 no. 5). The sides of the channel (dotted in the drawing) are thick benches of mortar that encase the channel into a very solid structure. Drawing by Femke Martens and Kim Vyncke, 2007.

The properties of the aqueduct section at site F were very similar, but here the channel took advantage of the presence of one of the already existing terrace retaining walls (§ 5.2) as a southern abutment. The channel was exposed within the 4 m wide excavation trench, but traces still visible at the surface made it possible to follow the aqueduct for an additional *c.* 30 m to the west, towards the city centre. The aqueduct had an interior width of 0.56 m (wall to wall) and an interior height between 0.80 and 1.12 m. At least the lower 0.68 m was covered with hydraulic plaster.

The upper eastern aqueduct is the best documented aqueduct in Sagalassos. The detailed knowledge of its properties make it possible to calculate (estimated) values for its flow discharge. The ratio between depth, width *and* slope is interdependent. In order to allow the same discharge throughout the whole aqueduct a reduced width (*e.g.* imposed by the local circumstances) could be met with either a greater depth or a steeper slope. Also the friction with the floor and walls is a factor, but considering the fact that the channel walls were treated with the same type of coating and that we are dealing with a rectangular cross section throughout the whole aqueduct, this factor is less significant.[775]

Important for calculating the (maximum) discharge of the aqueduct was the identification by Edwin Owens of a preserved watermark at approximately 0.50 m above the channel bed[776], at a spot where the channel was *c.* 0.40

[775] This can also be a partial explanation as to why the more eastern parts of the upper eastern aqueducts are more difficult to discern in the landscape. Only the final tract of the aqueduct needed to be able to carry the maximum discharge, *i.e.* the accumulation of all supplying aquifers. More eastern parts of the aqueduct would suffice with a more modest width and/or depth, which would imply less extensive infrastructural interventions.

[776] Owens 1995, 93.

m wide. With the local channel geometry (a cross section of 0.2 m² and a wet perimeter of 1.2 m), the local gradient (14.39 ‰) and the Manning's Roughness Coefficient (0.0125 for plastered surfaces) a flow of 530 l/s (0.53 m³) could be calculated, amounting to an impressive estimated 45,000 m³/day.[777] Since this number is far higher than the estimated current culminated flow of *c.* 60 l/s for the five springs mentioned in earlier studies, this warranted the 2012 extensive search for the real origins of the aqueduct. Even if this watermark represents a flow only reached during extremely wet years, it must have been a regular enough occurrence to leave a lasting mark. The well-preserved channel remains at other sections of the aqueduct suggest that this volume of water discharge was certainly anticipated, indicated by the hydraulic coating preserved to at least 0.68 m (at site F) and as high as 1.04 m (at the rock-cut section east of PQ 5) above the channel bottom (see above). The numbers show that the aqueduct at these points was engineered to handle a discharge volume up to 1,000 l/s (1 m³/s). It is possible that aquifers could provide more water in ancient times, if a more dense forest cover would have restricted evaporation and improved the infiltration of snow melt water.[778] But more likely the additional springs further east and north of the Akdağ Massif must have provided the bulk of the water flow.

This maximum flow, however, cannot be transported through the 25 cm wide water pipes, which were originally proposed as the general solution for stretches of the aqueduct that need to cross ancient screes east of the Eastern Suburbium.[779] These pipes, with a Manning Coefficient of 0.014 (for terracotta pipes), a cross section of 0.049 m² (a diameter of 0.25 m) and a slope runoff between 2.5 and 15 ‰, would only allow for a maximum discharge between 30-79 l/s (0.030 and 0.079 m³/s). The terracotta pipes should thus not be regarded as stretches of the main aqueduct itself, but rather as indications for the canalising of water from individual springs to the aqueduct. Where the aqueduct had to cross scree deposits, a solution in the form of a constructed channel, as is the case within the Eastern Suburbium, is more likely. These remains are now either eroded downslope or – more likely – buried underneath more recent scree deposits.

Direct evidence for dating the initial construction of the eastern aqueducts is scarce. The appearance of a series of new major water consuming complexes in the city centre from the early second century AD onwards is an indirect indication.[780] It seems less likely that the city, rich in natural sources, would have needed such infrastructure in earlier times. The middle eastern aqueduct appears to predate the upper one, even though this might be by only a martinally short time if the upper aqueduct indeed had to replace the unfinished middle one (see further). One sherd of a Sagalassos Red Slip Ware container type 1F150, found within the mortar of one of the outer walls of the upper eastern aqueduct at site F, can be dated from the second half of the 1st century to the 3rd century AD.[781] At the test sounding EA 1 a pottery sherd was found inside the hydraulic plaster which belonged to the 4th century AD or later, while four sherds that could be related to the construction of the channel proper were of Roman or Late Roman date. The layers that backfilled the 3.75 m wide trench in which the channel was constructed contained a mixture of pottery from Hellenistic times (among which urn fragments) to the 7th century AD, with a focus on the 2nd century AD and on the period 450-650 AD.[782] These are clear indications that the trench and the channel were reopened at several occasions, most probably for maintenance and/or repair, *e.g.* applying a new layer of hydraulic coating. The evidence seems to suggest an inauguration date for the upper

[777] Steegen 2000, 646. This (maximum) output seems by all means excessive, especially when comparing to the average combined supply of 40,000 m³ per day from ten aqueducts for the city of Pergamon, which had an estimated population of 160,000 inhabitants in Roman Imperial times. Nevertheless, even the lowest estimates for the yearly average output exceed the numbers proposed for cities like Pergamon or Priene, thus justifying the identification of Sagalassos as a "city of water" (Waelkens 2016, 327).

[778] Martens 2008b, 249.

[779] Steegen 2000, 643.

[780] The earliest *nymphaeum* on the Lower Agora was built during Trajan's reign; construction on the Imperial Roman Baths started from the early reign of Hadrian onwards; the *nymphaeum* between the Lower Agora and the Odeion dates to late Hadrianic times; the *nymphaeum* on the Upper Agora to the mid-Antonine period; the Macellum to the final decennia of the 2nd century AD; and finally a Severan *nymphaeum* replaced the Trajanic predecessor on the Lower Agora. Additionally a multitude of smaller road-side fountains were in use as well, but these are less well documented and dated (Martens 2006, 167-168; Mägele *et al.* 2007, 480; Waelkens 2008, 432; Martens 2008a, 250).

[781] Owens 1995, 94; Poblome 1999, 170.

[782] Martens & Vyncke 2007, 172-173.

eastern aqueduct in the (early) 2nd century AD, while construction work (originally on the middle eastern aqueduct?) might have started in the second half of the 1st century AD. The aqueduct must have been maintained regularly, as it served for several centuries – possibly up to the 7th century AD – and was maybe even still functioning in middle Byzantine times, where it could have supplied water to the *kastron* south of the city.[783]

The upper eastern aqueduct, though clearly intended for the city centre, cannot be allocated to a specific building. There are no stretches of the aqueduct known west of the Eastern Suburbium.[784] When taking into account the average slope of the aqueduct (between 2.5 and 15 ‰) and the observation that the aqueduct closely follows the local topography, the continuation of the aqueduct can be predicted. The channel would enter the city on the steep slope north of and *c.* 60 m higher than the Neon Library. Excavations east of the Library in 2012 and 2012 revealed fragments of a large structure that had tumbled down from higher upslope.[785] The features of these massive walls and curved vault fragments and the use of a hydraulic mortar[786] led to an identification as fragments of a water infrastructure, a possible *castellum divisorium* (*castellum aquae*) or cistern fed by the upper eastern aqueduct (**Fig. 7.13**)? Since the aqueduct arrived at the city centre at an altitude slightly above 1.600 m above sea level (the Upper Agora lies at *c.* 1530 m; the Lower Agora at *c.* 1495 m), it could have provided water for any of the monumental buildings in the city centre. Because some of the eastern and western aqueducts were specifically directed towards the Lower City, it is most likely that the upper eastern aqueduct served the Upper City, *e.g.* the Antonine Nymphaeum[787] at the Upper Agora, possibly the Macellum and other at present not yet identified public (and private) water consuming buildings.[788]

Spring sanctuary (?)

During the 2013 excavations of the early Byzantine church at the site PQ 5, located high up in the northeastern corner of the Eastern Suburbium, the team under supervision of Peter Talloen also set out to investigate the surroundings of an excavated part of the Eastern Aqueduct, located 50 m east of the PQ 5 site, beyond the ridge dividing the Eastern Suburbium from the Elmalı Pınar catchment area. This is the section of the aqueduct that had to pass underneath a collapsed part of the rock face (**Fig. 7.11**). The presence of pottery sherds (common within the Eastern Suburbium, but far less so east of it) and a figurine scattered at the surface suggested the presence of a more permanent structure. Indeed, some ashlars appeared to be *in situ*, while more possible building blocks and structural remains could be found downhill. The vertical rock face appears to have served as the back wall of a small structure at this imposing location overlooking the Elmalı Pınar valley.[789]

This feature could not be dated, but if linked with the Eastern Aqueduct it would most likely date to Early Roman Imperial Roman times. However, there might have been a possible sanctuary located at this conspicuous rocky outcrop predating the aqueduct. The topography indeed suggests that originally a natural water source sprang from this point, which might eventually have been tapped by the aqueduct.

[783] The final stretch of the eastern aqueduct(s), connecting them with the city centre, could not yet be traced. However, throughout the city, there are known sections of a large subterranean aqueduct leading water from above the Upper Agora towards the Lower Agora and beyond. This water channel must have been fed by a substantial source, for which the Upper Eastern Aqueduct is the most likely candidate.

[784] Femke Martens mentions a possible section of an aqueduct in test sounding TS5 in the Eastern Residential Quarter (Martens 2005). This concerns a conduit that is both too small and at a too low altitude to be an extension of the upper eastern aqueduct, though it might be a branch springing forth from a possible *castellum aquae* north of the Library.

[785] LE 2012 internal excavation report by Hendrik Uleners.

[786] It needs to be remarked that hydraulic mortar is not used exlusively in waterworks; in fact, most of its appliance in Sagalassos has been witnessed in non-water related structures (personal communication by Patrick Degryse).

[787] There probably was already a predecessor of the Antonine Nymphaeum along the north side of the Upper Agora (UAN 2010 internal excavation report by Elizabeth Murhpy).

[788] While excavations at the Late Hellenistic Fountain House were still ongoing, the aqueduct was seen as the possible source for its water supply (Owens 1995, 94). But the water infrastructure supplying the Fountain House appeared to be intact; the building is now once again providing coolness and drinking water to thirsty passers-by. It is more likely that a nearby natural spring is the source for this fountain.

[789] Peter Talloen, personal communication.

Fig. 7.13. Some of the tumbled down wall sections and vault fragments from water infrastructure (a cistern or *castellum aquae*?), as encountered within the excavation trench of site LE (Library East) in 2012. The parts appear to have tumbled down from higher uphill. Other fragments had already been removed for safety reasons in order to allow the ongoing excavations. The wall and vault remains proved to be too solid to be taken apart by hand.

Middle eastern aqueduct[790]

The course of the middle eastern aqueduct could only be followed with certainty over a stretch of *c.* 150 m, where it runs parallel to and some meters below a well-preserved part of the upper eastern aqueduct (**Fig. 7.2** no. 2).[791] Even though this is the best-preserved part of the middle aqueduct, complete sections are missing at spots where the upper aqueduct appears to be intact. This fuels the impression that both channels were not in use simultaneously, with the lower channel probably being damaged beyond repair and in need of replacement. It needs to be kept in mind that the disruption of one small section would render the whole infrastructure idle. And this could have happened during its lifetime, but also already during the (long) construction process. In the Roman Empire there are many known examples of aqueducts that never came into use, because they were poorly planned, poorly executed or prematurely abandoned because of damage.[792] The same might have been the case for the middle eastern aqueduct of Sagalassos. The observation that only at one spot remains of the middle eastern aqueduct could be mapped, in sharp contrast to the many traceable sections of the upper eastern aqueduct, seems to suggest that the middle aqueduct project was abandoned early in its construction project and replaced by the upper aqueduct. There are many rock faces where parts of the aqueduct could have been preserved, and – considering its altitude – it would most likely also have been encountered within the lower half of the 1990 site F excavation trench.

Sabri Aydal proposes a different hypothesis for the existence of two different, parallel aqueducts. During his 2012 survey of the flanks of the Akdağ-Ağlasun mountain range, he observed traces of water infrastructure nearby Öküzçukuru, a high altitude mountain pasture located above 1900 m asl and bordered by steep cliffs (**Fig. 7.1**). Three local springs are still used by villagers nowadays and rock-cut channeling marks suggest they were tapped into in ancient times as well. According to Aydal, these springs, together with the slightly more eastern Naneli Pınar (**Fig. 7.1**), were the original sources for the first aqueduct providing water to Sagalassos. It was only when

[790] The name 'middle eastern aqueduct' comes from the suggested presence of a third, 'lower', eastern aqueduct providing the city with water coming in from the east (Waelkens *et al.* 1990a; Owens 1995). The limited evidence at hand for this third eastern aqueduct show that it would not have interacted with the Eastern Suburbium of Sagalassos.

[791] Edwin Owens mentioned a height difference of 3 m between both aqueducts, while Sabri Aydal mentioned 6 m in his preliminary report on his 2012 Akdağ survey. The latter measurements seemed to be more accurate. Aydal, however, confuses both aqueducts: the upper, better preserved section is actually the upper eastern aqueduct.

[792] Owens 1991, 41-42; Owens 1995, 94.

their flow capacity became insufficient for the needs of an expanding and monumentalizing city that a new aqueduct was built in order to capture the water from the Başpınar source.[793] However, there are no dating criteria for these channels and their altitude allows them to be captured into both the upper and the middle eastern aqueduct. Moreover, Edwin Owens identified a Y-junction on the upper eastern aqueduct (**Fig. 7.2** no. 1) that seems to correspond with a water channel coming in from the Öküzçukuru and Naneli Pinar sources. There can be no certainty, since the course of these tributary water channels has been reconstructed based on scant and far-ranging remains. If the dimensions of the middle eastern aqueduct could be estimated, it could tell us something about the expected flow rate of the water. If the hypothesis of Aydal is correct, one would expect a channel with a lesser capacity. However, no convincing data have yet been obtained from this badly preserved aqueduct.

Lower eastern aqueduct

The lower eastern aqueduct is only known from some early descriptions by Edwin Owens.[794] Many of the *in situ* indications appear to have since been obscured by the construction of the new road towards Sagalassos and by farming activities. The course of this aqueduct (**Fig. 7.2**) has been tentatively reconstructed based on the descriptions in those publications and with the help from personal comments by Marc Waelkens and the detailed topographical map of the region indicating all the active aquifers and many isolated ancient structures. The location that corresponds with the spring house documented in these early reports is the spot where several aquifers in the Külüklü Pınar area confluence. The maps shows the presence of ancient structures at this location and suggests that the streams 'disappear' at the point of their junction. It is more likely that the seasonal water flow is still at least partially captured by the now buried ancient aqueduct.

The Roman aqueduct was situated on the gently sloping ground below the cliffs into which the Hellenistic aqueducts had been cut. Its source was a spring situated lower down and on the other side of the same valley from which the other two aqueducts drew water. The remains of the well-preserved spring building became visible after excavations by the landowners in an attempt to improve the supply of the still active spring (**Fig. 7.14**). The structure consists of an irregular trapezoidal shaped chamber, with sides measuring respectively 2.14 m (north), 3.90 m (east), 2.86 m (west) and 1 m (south). The structure is preserved to a height of 1.60 m. The walls of the spring house are constructed of limestone ashlars of varying sizes in regular horizontal courses, several of which were removed by the landowner. The water inlet was a circular opening cut into the rear wall of the chamber; the water flowed out from the opposite wall. The newly excavated fill from the spring building also contained several fragments of large-diameter terracotta water pipes (internal diameter of 25 cm).[795]

No remains of the aqueduct are preserved in the immediate vicinity of the spring house. However, the discovery of several ashlars, possibly *in situ*, might have belonged to the structure that carried the channel across the gully immediately adjoining the spring building.[796] Beyond this gully, a 300 m long section of a solid stone wall can be followed, as it runs parallel to an old trackway. These wall remains are interpreted as originally carrying the terracotta pipeline, of which fragments can be found in the fields below. The aqueduct thus clearly differed from the other eastern aqueducts, which consisted either of rock-cut or constructed subterranean channels over the whole length of their course. The aqueduct crosses a stretch of the so-called quarry road (see § 6.2.1), linking the northern stretches of the Gökpınar area with Elmalı Pınar. Beyond this point, the evidence became very sketchy, partially because of the rough terrain and partially because sections of the aqueduct were probably destroyed

[793] Aydal 2012, internal Akdağ survey report.

[794] Waelkens *et al.* 1990a, 197-198; Owens 1995, 95-96: Owens originally differentiated the lower eastern 'Roman' aqueduct from the middle and upper 'Hellenistic' aqueducts, even though such early dates for any of the eastern aqueducts have not been proven.

[795] Waelkens *et al.* 1990a, 197-198; Owens 1995, 95-96.

[796] Edwin Owens is less cautious in his original 1990 publication of the remains. In that first report he mentioned four *in situ* bases at regular distance, which he interpreted as the remains of a bridge carrying the aqueduct across the valley. He also seemed to refer to the main quarry road itself as running parallel to the aqueduct, which is not possible (Waelkens *et al.* 1990a, 197-198).

for the construction of the road leading to Sagalassos. The altitude at which the aqueduct must have entered the city shows that it was clearly intended for the Lower City, possibly the Roman Baths (Imperial or Old Baths?) or one of the *nymphaea* on or near to the Lower Agora.[797]

Fig. 7.14. Spring building of the 'Roman' lower eastern aqueduct. From Owens 1995, 105 Fig. 14.

If our tentative reconstruction of the course of the Lower Aqueduct is correct, then the distance covered between the spring building and the Roman Baths was *c.* 2.080 m, while the height difference appears to have been no more than 10 m (an estimation only based on cartographic material). That would account for an average slope of slightly less than 5 ‰, which falls within the 2.5-15 ‰ range attested for separate stretches of the upper eastern aqueduct. It is possible to calculate the maximum discharge of this aqueduct through the Manning equation for pipe flow. Taking in account the Manning Coefficient of 0.014 (for terracotta pipes), a cross section of 0.049 m² (for a diameter of 0.25 m) and a slope runoff of 5 ‰, the maximum discharge would have been 42 l/s (0.042 m³/s). While this is far below the maximum possible discharge calculated for the upper eastern aqueduct, it still amounts to *c.* 3630 m³ and would have been enough to continuously renew the water in all water basins and pools of the Imperial Baths.[798]

There is no direct dateable evidence, however, that can be linked to this aqueduct, making its period of construction even more debatable than the upper and middle aqueduct. Also the terracotta water pipe fragments themselves, none of which were found *in situ*, cannot provide a secure date: both the large and medium sized types of water pipes were in use from the 1st to the 7th century AD.[799] When considering the possible purposes of the aqueduct, it can most likely be linked to either one of the *nymphaea* at the Lower Agora, *i.e.* the original Flavian Nymphaeum (80-100 AD) or its successor in Hadrianic times, or to the different bathing

[797] Waelkens *et al.* 1990a, 197-198; Owens 1995, 95-96.

[798] For a reference: the volume of the the *piscina* in the Frigidarium 2 – the largest pool for which all dimensions are known – amounts to 55 m³. The original *piscina* in the eastern annex to the large Frigidarium 1 was larger (*c.* 80 m²?) and possibly deeper, but would still not have accounted for more than 120 m³.

[799] Martens 2006, 166-167.

complexes, *i.e.* the Old Baths (10-30 AD) or the Imperial Baths (120-165 AD). Thus a date for the construction of this Roman aqueduct before 165 AD can be premised.

Water infrastructure within the Eastern Suburbium

The construction of the upper eastern aqueduct had a significant and lasting effect on the quarter. A trench of up to 4 m wide had to be dug in order to accommodate the channel. Since the aqueduct has to descend at a limited and regular slope, there were few options for manoeuvring its course and sparing possible existing structures in its path. The pottery sherds of Hellenistic cremation urns encountered in the fill of the trench should be understood in this light. Considering that the stretch of aqueduct within the Eastern Suburbium is *c.* 300 m long, this means that an estimated 10-12 ares of land were intensively modified for the purpose of the aqueduct (in comparison: the large *naiskos* tomb at PQ 1 and its surrounding *temenos* compound cover an area of *c.* 2 ares). In addition, the channel had to be accessible for maintenance and repair throughout the centuries it was in use, which would make it impossible to construct any lasting standing structures over this area.

There are no indications that the Eastern Suburbium itself shared in the aqueduct's supply. Nevertheless, remains of *in situ* terracotta water pipes and other small-scale water channels are found in excavations throughout this suburban quarter, suggesting a very dense water infrastructure network (**Fig. 7.15**). There is a local spring immediately west of the church at site PQ 5, that nowadays is being tapped into for agricultural purposes further downhill. A natural gully originates from this source, clearly recognisable in the field and on detailed topographical maps as it finds its way towards the Central Depression. The gully can only have been created by running water over a long period of time, so the spring must have been a constant presence in the Eastern Suburbium after the abandonment of the quarter but most probably also before. Late Antique terracotta water pipes encountered in test soundings EA 2 and EA 3 (respectively west and northwest of EA 1 containing the upper eastern aqueduct) seem to spring forth from the exact same location. An ancient gully was also encountered west of the PQ 2 excavations, which already in Roman times must have been filled at least partially by tephra deposits (see § 6.5.2). Nevertheless, the current microtopography still hints at a low depression coming in from the north.

Terracotta water pipes were encountered at the sites PQ 2, PQ coroplast and PQ 1 east slope workshops, PQ 5 and in the test trenches of PQ 3 and EA (Eastern Aqueduct). In some of these cases the water pipes can be associated with street infrastructure, as was the case for the street running north of the PQ 2 and coroplast workshops and for the side street encountered within PQ 3. These might have served either for the supply or the evacuation of water. In most cases the pipes all have the same dimensions (35-41 cm long segments, with an outer diameter of 11 cm). None of these terracotta channels can be linked with a specific purpose, as only sections of them have been found. The exception is the slightly larger terracotta water pipe (*c.* 50 cm long segments, with an outer diameter of 15 cm) encountered within the PQ 2 *schola*, which provided water to the fountain basin of the building (see further).

Apart from the upper eastern aqueduct itself, built water channels have also been encountered at the PQ 2 *schola* (as a runoff channel for its central fountain basin), east of the PQ 5 church (along a terrace wall, see **Fig. 7.16**) and at PQ 3 (apparently as part of the street infrastructure). The PQ 2 channels are described in detail in the relevant paragraphs (see § 6.5.2). The PQ 5 channel was exposed over a length of 4.00 m. It consisted of two rows of roughly shaped stones set in a bed of clay, forming a channel with a width of 0.22 m and a depth of 0.25 m and covered with rubble stones.[800] The water channel at PQ 3 was capped by limestone mortared in place. The northwestern wall of the channel was constructed of building tiles and small limestone heavily mortared in place. The floor of the channel was lined with building tiles cut in half (cut tile dimensions 28 cm x 14 cm x 4 cm).

[800] PQ 5 internal excavation report by Peter Talloen.

The southeastern wall was built into and against the adjacent enclosure wall. Both interior walls of the channel were heavily mortared with a 2 cm thick layer.[801]

Apart from the obvious presence of water channels, also other water 'features' have been identified in the Eastern Suburbium. The fountain basin exposed within the PQ 2 *schola* is described in more detail in the relevant paragraphs (see § 6.5.2). Northwest of the same building a deep ceramic bowl served as a sump pit (**Fig. 7.17**) for water being supplied by terracotta pipes.[802] The continuation of this water channel has not been exposed. The clay pit of the east slope workshops, lastly, is described in detail in the relevant paragraphs (see § 6.3.2).

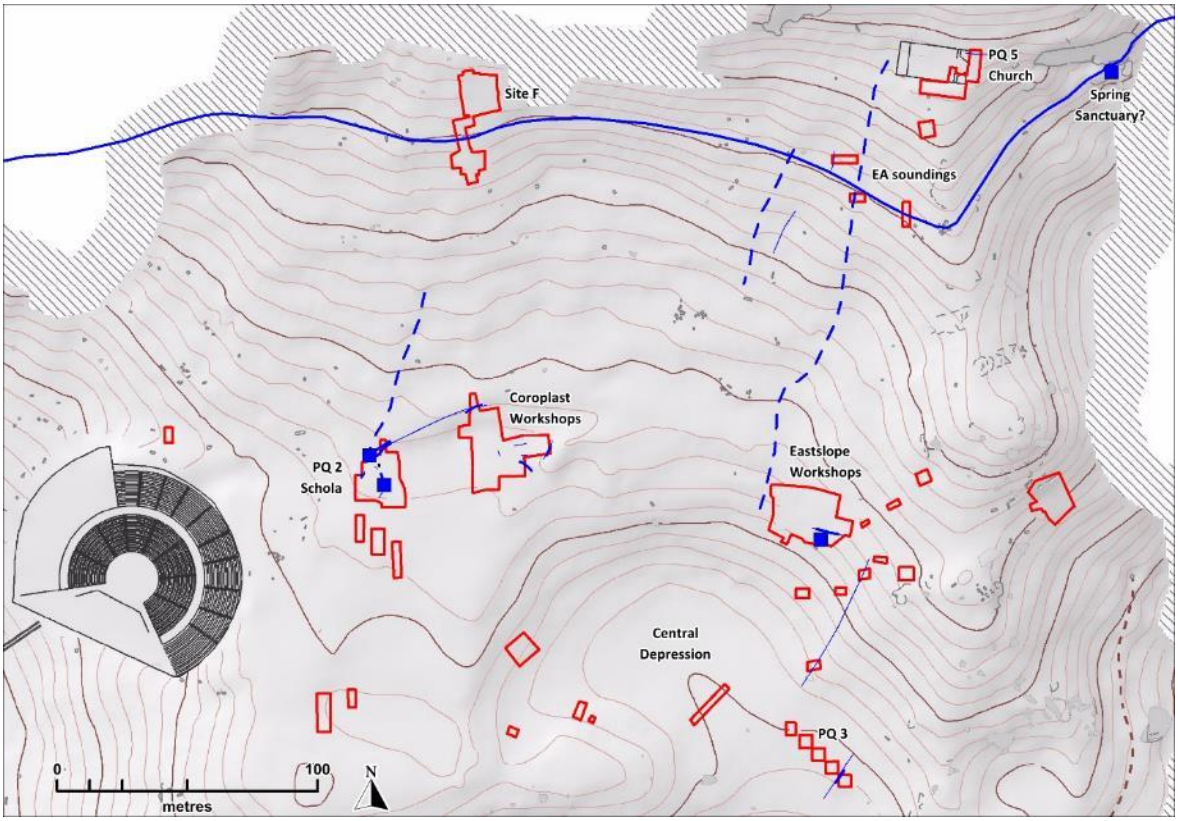


Fig. 7.15. Overview of the Eastern Suburbium, with indication of the sites mentioned in the text and of all the known water infrastructure: upper eastern aqueduct (thick blue line), other water channels (thin blue lines), (ancient) seasonal streams (dashed lines) and water 'features' (blue squares). The Central Depression, due to the surrounding topography and its natural position and shape, has always formed a 'receptacle' for the runoff water of the upper slopes to its north, east and west.

A lot of the water infrastructure in the Eastern Suburbium should probably be linked with the artisanal activities. Every workshop would have needed a steady supply of (running) water and the density of the water network seems to indicate that every single workshop could have been provided with its own water supply. Local aquifers might have provided the necessary steady flow of fresh water and it is very plausible that the Eastern Suburbium artisans, of whom the potters form the lion's part, did not need any external water source for their needs. Indeed, it might have been a key factor in the potters' decision to develop their trade in this specific area, even after the available local clays from the Central Depression were to a large extent replaced by clays imported from the Çanaklı valley (clays from the Central Depression still appear to have served as slips, see § 6.3.1). That water supply was not limited to artisanal activities, is proven by the (cultic?) fountain basin in the PQ 2 *schola*.

[801] PQ 3 2012 internal excavation report by Elizabeth Murphy. A concise version of this report appeared in the *XXXV*. *Kazı Sonuçları Toplantısı* (Turkish).

[802] PQ 2 2012 internal excavation report by Sven Van Haelst, Merve Özkılıç & Liesbeth Claessens. A concise version of this report appeared in the *XXXV*. *Kazı Sonuçları Toplantısı* (Turkish).

Moreover, it was not uncommon for burial plots to be equipped with their own system of water supply[803], even though no direct evidence for this practice has been encountered yet in the Eastern Suburbium. Water to irrigate fields would also have been a prerequisite in the period preceding the development of the Eastern Suburbium into a funerary-artisanal quarter (the arguments for an agricultural origin of the area were brought forward in § 5.2).

It is difficult to date the water infrastructure in Sagalassos purely on typological grounds. Both the large and medium sized terracotta pipes have been in use indiscriminately through Roman and early Byzantine times (1st-7th century AD). In several cases it could be established that the water infrastructure was laid out simultaneously or relatively shortly after the construction of the main roads throughout the quarter (see § 6.2.1). The rapid development of the quarter in the 1st century AD would have required not only an adequate road network, but also a trustworthy supply and drainage of water. Once laid out, this 'public' infrastructure would have needed a regular upkeep. In the case of the street sounding north of the PQ coroplast workshops, the final renewal of the road surface was accompanied by the installation of a water channel in a burrow through the middle of the road. At least as late as the 4th century AD, and possibly later, new terracotta water pipes were installed as part of the 'public' upkeep of the quarter. Apart from the communal use of water infrastructure, each plot within the Eastern Suburbium would provide for its own means. At least till the 6th century AD, the area must have profited from an adequately functioning water infrastructure.

Fig. 7.16. View from the east on the water channel constructed of mortared limestone rubble located east of the PQ 5 church. Once the content of the channel was partially excavated, the water started flowing again.

Fig. 7.17. View from the south on the ceramic bowl serving as a sump pit, located immediately northwest of the PQ 2 *schola*.

[803] Cormack 2004, 31. See also § 7.4.10.

7.3 Artisanal activities

7.3.1 Pottery production

Research within the Eastern Suburbium yielded relatively few data that can be linked directly with artisanal activities during this time frame. This, however, by no means signifies a potential stagnation or decline in the crafts in general and the pottery production in particular. The physical remains of artisanal activities are in many ways biased towards the later periods, since these partially mudbrick constructions were not built for eternity. Workshops required regular rebuilding, and newer ateliers would erase the remains of older production phases. Dumps of pottery production waste would actually be more durable, but the same applies here as well: earlier dumps are less likely to be encountered at the surface as they would be engulfed by younger depositions. In fact, not the scarcity of information dated to Roman Imperial times should come as a surprise, but rather the relatively solid and widespread evidence we have for Early Roman Imperial pottery production (see § 6.3).

Excavations offer the best chances at gathering information on the earlier periods within the study region and traces of (Early) Roman Imperial pottery production have been encountered in two of the three excavations that broached the potters' quarter: site F on the northern slopes and site PQ 1 northeast of the Central Depression. Site PQ 1 east slope workshops provided us with convincing proof for uninterrupted pottery production throughout Imperial times, even though the 3rd century AD construction of the *naiskos* tomb and the Late Roman workshop to a large extent obliterated earlier traces. Only the site of the PQ coroplast workshops did not provide univocal information on earlier activities, while other excavation sites and test trenches within the Eastern Suburbium were not aimed at the study of the local potters. The results from geophysical surveys allowed to a large extent to reconstruct the expansion and scale of the pottery production quarter, but those maps come without chronological framework.[804] The laws of superposition, although complicated by post-depositional disturbance processes, imply that the final periods of occupation would be overrepresented in the results of field surveys. Femke Martens, who supervised the urban surveys, wrote how *"unlike the previous phases, the Late Roman occupation of Sagalassos was well represented in the surface record"*, even though those previous periods brought the largest urban expansion.[805] Specifically for the intensive field survey within the western part of the Eastern Suburbium (covering *c.* ¼ of the total *proasteion*), the results were chronologically rather diversified, with Early to Mid Roman Imperial sherds being prevalent in five of twenty-seven 20 x 20 m survey squares.[806]

The output of Sagalassos Red Slip Ware (SRSW) has been estimated by plotting all rim sherds using a Gaussian data distribution method, which showed how "*an exponential growth of SRSW distribution at Sagalassos (and thereby presumably output of production as well) seems to take place during Flavian times, peaking during Antonine times."* The same graphs suggest a subsequent sharp decline in pottery output in the 3rd and 4th centuries AD and a partial revival in the 5th century AD.[807] It is, however, dangerous to draw far-reaching conclusions from these graphs. It is possible that the chronological distribution of the rim count (originally mainly from fills and deposits) offers a closer representation of the building history of the site – mainly consisting of a Roman Imperial building boom and a thorough Early Byzantine reorganisation – rather than the actual SRSW production output. In fact, Sagalassos survey data suggest a stable urban environment throughout Imperial times and there are few indications for a 3rd century AD economic crisis to take effect.[808] Stephen Mitchell even

[804] It is in some cases possible to suggest a relative chronology purely on the basis of the geophysical results. This is the case, for example, when apparently well-preserved kilns overlap with monumental architecture. In those cases it is fair to assume that the kilns postdate the abandonment (and partial dismantling?) of the monumental structure, since it is less likely that the kiln remains would register as clearly on the geophysical maps if they would have been superimposed or erased by a large building project.

[805] Martens 2005, 245-249 (quote from 248): probably is meant 'Late Roman and Early Byzantine' as one statistical group, since the Late Roman period (*c.* 300-450 AD) in itself is in many ways least represented (Poblome *et al.* 2013a, 169). See also Martens *et al.* 2008, 137-139.

[806] The field surveys resulted in a similar chronological diversification for the Western Residential Quarter, while the Eastern Residential Quarter resulted in a much more homogeneous distribution map, dominated by Late Roman – Early Byzantine pottery finds (Martens 2005, 247 Fig. 11).

[807] Willet & Poblome 2015, 141, 155 Fig. 2.

[808] Poblome *et al.* 2013a, 169-170.

recognised a 'second wave of romanisation' for southwest Anatolia during this period.[809] It is indeed possible that once the city was fully equipped with all necessary public architecture and amenities in late Severan times, local euergetism focused more on the organisation of games and festivals attached to Sagalassos' status as *neokoros* (see § 2.1.1).[810]

7.3.2 Quarrying activities

The known limestone and clay quarries of the Eastern Suburbium and its wider surroundings have been discussed more in detail in respectively § 5.3.1 and § 5.3.2 / § 6.3.1. It is not our intention to reopen the discussions presented there. However, those paragraphs covered activities that undoubtedly continued throughout later Roman Imperial times.

The petrographical study of the ashlars used in monumental buildings throughout the city allowed for the identification of the origin of those building blocks. The 'eastern quarries' (*i.e.* the large limestone quarry in the southeast of the Eastern Suburbium, but also various smaller outcropping patches of quarried limestone in Elmalı Pınar, Gökpınar, Ciğilli Pınar and Küluklü Pınar) have been linked with several monumental buildings (see § 5.3.1), the most recent one of which being the Theatre. The choice for the Eastern Suburbium limestone quarry as the main source for the Theatre's building material is self-explanatory when considering the proximity (*c.* 420 m) and ease of access (almost at the same level) between the quarry and the upper stretches of the Theatre. It is estimated that the construction works on the Theatre probably halted – leaving the *skenè* building in a half-finished state – between 180-200 AD.[811] It is possible that this also implied the end of the large-scale exploitation of this quarry. New construction projects in Sagalassos would still be executed throughout Severan times, but no known 3rd century AD constructions could be linked with the eastern quarries. Large-scale construction work would only revive centuries later with a boom of Christian architecture, but those buildings were almost entirely erected in *spolia* instead of freshly quarried stone. While the use of *spolia* in new building projects was already applied from Hellenistic times onwards in Sagalassos, existing structures would become the only source for stone mining from the 4th century AD onwards[812] (a practice that had become standard in the Late Antique world[813]).

Another industry that required a lot of quarried limestone was the carving of *sarcophagi*. Veli Köse dated the earliest *sarcophagi* to the first half of the 1st century AD, based on decorative elements. We already suggested in § 5.4.4 that it cannot be excluded that (some of) the not-decorated *sarcophagi* and *chamosoria* (rock-cut *sarcophagi*) should be dated earlier (see also § 7.4.8). The link between *sarcophagi* and small-scale quarries has already been set forth in § 5.3.1. This is very clear for the our study region, where most *sarcophagi* – to a large extent *in situ* – were encountered in the immediate vicinity of small outcrops of quarried rock. Especially the rocky slopes along the southern edge and immediately south of the Eastern Suburbium are dotted with *sarcophagi*, among which several *chamosoria*. Most of these *sarcophagi* were likely carved nearby their final resting place, as is also attested by the presence of large dumps of limestone chips, resulting from stone carving, on the same slopes (see § 5.3.1). In Sagalassos, the Severan period would be the final fashionable period for *sarcophagi*.[814] It is thus reasonable to suggest that both the larger limestone quarries – which would have mainly served the by then abolished large building projects – as well as the smaller patches of outcropping rock were no longer quarried from the second half of the 3rd century AD onwards.

Clay quarrying in the Central Depression might also have been ongoing throughout Roman Imperial (and Late Roman – Early Byzantine) times, but on a much smaller scale. The Central Depression has been determined as one of the possible sources for the clay used in the slip layer of Sagalassos Red Slip Ware. However, infrastructural developments in the immediate surroundings of the Central Depression (*e.g.* at site PQ 3, see § 6.4.3) as well as boreholes taken from the area (see § 5.3.2) suggest that the (main) quarrying activities had come to a halt once the potters moved into the Eastern Suburbium in Augustan times.

[809] Mitchell 1999.
[810] Waelkens 2011.
[811] This is the most recent, unpublished estimation (personal communication with Marc Waelkens and Ebru Torun).
[812] Degryse (ed.) 2007, 18.
[813] Deichmann 1975.
[814] Köse 2005a, 20-21, 107-109.

7.4 Funerary culture

7.4.1 Shift in burial culture

In the 2nd century AD, the Roman World went through a significant and empire-wide shift from a funerary culture mainly dominated by cremation to a culture of inhumation. The reigns of Trajan and especially Hadrian saw the emergence of the use of *sarcophagi* and their associated carving art. Inhumations would gradually, but successfully replace cremation traditions throughout the Empire, a process which would be almost complete by the middle of the 3rd century AD.[815] While it is tempting to try to link this seminal change in burial culture to a shift in religious beliefs, any strong evidence regarding such an assumption is lacking.

By the end of the Republic, cremation was considered to be the *mos romanus* or common burial practice in the Roman World, to such an extent that the fact that some families traditionally still deviated from this practice was worthwhile mentioning by ancient authors.[816] The courtier and writer Petronius (27-66 AD) referred to inhumation in *hypogea* as the *graeco more* ('in the Greek manner')[817], implying that the practice of inhumation was more en vogue in the eastern provinces of the Empire. Cremation was certainly not unheard of either in the East, mainly in the regions actively promoting Roman culture, but it would effectively be abolished altogether in the span of one century. Scholars generally concur that a significant change in religious doctrine, which had always been thoroughly diverse throughout the Empire, was not a prerequisite for a change in burial customs.[818] Changes in burial practices are rather determined by a complex mix of factors; social, philosophical-religious, physical and circumstantial determinants can all be involved in the choice for a specific burial rite.[819] It has to be remembered that there never was a Roman law directed against inhumation. Inhumation was a reality and for instance the preferred rite among Jews and Christians. However, the shift to inhumation throughout the Empire was too widespread to be due to eastern Mystery religions, Jewish or other Semetic customs and it was too early to be accredited to the growing influence of Christians in the Empire.[820] Nevertheless, both the practice of inhumation and the use of *sarcophagi* were more popular in Imperial times in the Greek East than in the Latin West. Pliny the Elder (23-79 AD) describes the *sarcophagus* as an exotic item (or rather the 'flesh-eating' qualities of the stone)[821] even though due to the Etruscan legacy there was also a precedent on the Italian Peninsula.

[815] Toynbee 1971, 39-40; Rebay-Salisbury 2012, 19-21.

[816] Both 1st century AD authors Pliny the Elder (*Naturalis historia*, 7.187) and Cicero (*De Legibus*, 11.56-57) single out the *Gens Cornelia*, among other families, who still upkept the 'old' ritual of inhumation. Sulla (138-78 BC) would have been the first of his family to be cremated, allegedly out of fear for his remains to be abused by supporters of his political opponent Marius, as he himself had the latter's body exhumed. Ancient commentators indeed suggest that cremation was adopted because people feared that inhumed bodies were more prone to desecration (Toynbee 1971, 39; Hope 2009, 81-82; Rebay-Salisbury 2012, 20).

[817] Petronius *Satyricon*, 3.2.

[818] See for example Childe 1944, 85–88; Piggott 1965. This is not only the case in ancient societies, but has also been observed in more recent cases. In the 19th-20th centuries, for example, large parts of the western world also noticed a gradual shift from inhumation to cremation. There are several reasons behind this shift, none of which implies a significant change in religious beliefs. Even though in many cases the recent changes involved a more lenient attitude from – especially – the Church, this attitude change was much rather a reaction to an already existing reality in burial change than an actual endorsement of the change. The ever recurrent reasons for the shift are 1) the fact that cremation is in most cases cheaper than traditional burials, 2) the lack of space in cemeteries and/or family burial plots and 3) environmental and/or sanitary concerns. Locally other factors played part as well. The communists in the Soviet Union politically promoted cremation after the 1917 revolution, in order to discourage religious beliefs (all leading religions, including Islam, the Orthodox Church and Judaism, being opposed against cremation). And in the current mobile American society, with many families in the possession of a second residence, it proves to be easier to transport an ash urn than a casket when a beloved dies in a second residence but wishes to be buried in her/his hometown. Comparing this last observation with Roman military funerary traditions might not be too far-fetched: in contrast to the rest of the Roman World the practice of cremation was maintained even in the 3rd century AD (Morris 1992, 54). This might also be explained by the wishes of soldiers stationed in far-away provinces to be buried in their homelands. A decomposing body would never be transported over large distances, but a pouch containing ashes would be a small burden.

[819] Carr 1995, 188-194. It needs to be remarked that Christopher Carr based his research on a cross-cultural study of 31 *non*-state societies using the Human Relations Area Files. Nevertheless, the indications for classical states point in the same direction (Rebay-Salisbury 2012).

[820] Nock 1932, 331-334; Toynbee 1971, 41.

[821] Pliny the Elder *Naturalis historia*, 36.27-28.

Moreover, the Romans were no stranger to adopting elements from the Hellenistic East into their burial culture, as witnessed by the lavish tombs that elite Romans began erecting from the 1st century BC onwards.[822] In any case, within a few decades (before 180 AD), the richer classes at Rome appear to have fully converted to inhumation rites. The common people and the provinces would take it rather more slowly.[823]

Jocelyn C.M. Toynbee and Ian Morris discuss the suggestion of Arthur Darby Nock that a rather base aspect as fashion might have played a major role in the supersession of cremation by inhumation in the 2nd century AD, or as Nock states it: "[...] *variations of practice are normally conditioned by convenience, safety, and economy or ostentation.*"[824] One strong argument for the influence of 'fashion' is the observation that early *sarcophagi*, though clearly shaped to carry the remains for an outstretched body, sometimes only contained cremated remains.[825] Toynbee partially objects with the observation that ash-chests and funerary altars could be just as masterly carved as *sarcophagi*. She rather suggests that "[...] *inhumation could be felt to be a gentler and a more respectful way of laying to rest the mortal frame which has been the temple and mirror of the immortal soul and enduring personality* [...]"[826] as the belief in an individual, either rewarding or condemning, afterlife became stronger.[827]

It seems that in the Classical Graeco-Roman World it was rather the application of the right, respectful funerary practices − which could be either cremation or inhumation – than an ideological or logical justification that upheld a 'correct' burial.[828] That is illustrated as well by the relative vagueness of ancient authors in describing which burial tradition − cremation or inhumation − consecutive emperors applied for their own funerals.[829] In that case shifts in burial customs can be explained more easily as a change born out of economical, practical, social or, indeed, fashionable reasons (or probably a combination of two or more of these reasons) rather than out of a fundamental shift in religious ideas.[830]

Whatever the explanation may be, the efficacy and encompassing character of the shift away from cremation was remarkably widespread throughout the Empire, including in the East. Sagalassos appears to have been quick in picking up the habit of inhumation, but the story is not univocal. From the data at hand we can state that cremation was certainly well established in Sagalassos (long) before Imperial times, with cremations being deposited in terracotta urns and *osteothekoi* (see resp. § 5.4.2 and § 5.4.3). The earliest inhumation burials, encountered within the PQ 4 burial compound, are dated to the late 1st – early 2nd century AD: two individuals were buried in constructed tombs and (at least) one in a simple pit (see § 6.4.2). The 2nd century AD would see the emergence and bloom of *sarcophagus* carving[831], while temple tombs might have evolved from Hellenistic predecessors (see further). The situation, however, is complicated through the continuation of cremation practices in the form of *arcosolia*, which are largely contemporary with the *sarcophagi*, and the possible continuation of primary cremations within Roman Imperial times (although the primary cremation discussed in § 6.4.1.2 clearly seems to deviate from contemporary funerary customs). There appears to be a gap in the practice of cremation in the 1st century AD, but this may be because of the biases in our dataset: while *arcosolia* and to a lesser extent *osteothekoi* will show up during field surveys, pottery urns and *bustum* burials can only be encountered through actual excavations. It is likely that the practice of cremation in Sagalassos only faded in the 3rd century AD, when the carving of new *arcosolia* (and *sarcophagi*) gradually came to a halt.

[822] Morris 1992, 43.
[823] Morris 1992, 54.
[824] Nock 1932, 333.
[825] Nock 1932, 331; Toynbee 1971, 41; Morris 1992, 33.
[826] Toynbee 1971, 41.
[827] Toynbee 1971, 40-41; Rebay-Salisbury 2012, 19-21.
[828] Rebay-Salisbury 2012, 19-20.
[829] Morris 1992, 54.
[830] Morris 1992, 33.
[831] Köse 2005a, 107-110.

7.4.2 The *naiskos* tomb at site PQ 1

A 'temple tomb'[832]

In 1999 a preceding series of test soundings and drillings in the Eastern Suburbium was succeeded by an extensive excavation in between the Central Depression and the eastern ridge of the quarter (the 'east slope'). The intention was to study the east slope workshop remains, but during the 1999 season traces of a *naiskos* tomb and its surrounding *temenos* (its surrounding, sacred precinct) were mapped prior to being reburied again. In the 2012 and 2013 the trench was reopened, this time to study the actual remains of the tomb, its *temenos* and its relationship with the surrounding and partially underlying workshop remains (see also § 6.3.2) (**Fig. 7.18**).

A *naiskos* tomb is a monumental tomb in the shape of a small temple. The *naiskos* tomb at site PQ 1 at the Eastern Suburbium is of the *distyle in antis* type, the most basic form of the 'Greek' temples (**Figs. 7.19**-**7.20**). The structure consists of the *cella* (the main chamber[833]) and the *pronaos* (porch) between *antae* and was fronted by two columns (of which only the negative imprint of the bases is preserved). The tomb was erected on top of a *c.* 1.4 m high podium, measuring 7.35 by 5.45 mn and containing the *hypogeia*. The walls of the *naiskos* were constructed of both ashlars and mortared limestone rubble. While the podium is completely intact, only the bottom rows of stones of the superstructure are preserved. Most of the standing walls were deliberately deconstructed and hauled away, since only very little of the debris was found in the surrounding layers. Due to the lack of evidence, the type of roof cannot be reconstructed. Based on parallel examples of tombs from other sites within Pisidia and the neighbouring regions (see further), it might have been either a vaulted or gabled roof. However, if we consider the older *heroa* in Sagalassos as a leitmotif, a gabled roof is the most plausible hypothese. No indications are preserved that could assign the tomb to a specific architectural order.

The *naiskos* type of tomb is anything but foreign to the region. The podium tomb − and its more architecturally developed counterpart, the *naiskos* tomb − actually originated in the east and more specifically in Asia Minor.[834] Many examples of this type of tombs can be found throughout Anatolia, but the most relevant parallels to this Sagalassos *naiskos* tomb are, not coincidentally, from Roman cities within Pisidia and its closest affiliated regions: Adada, Ariassos, Melli, Saraycık, Selge and Termessos in Pisidia, Arykanda, Balboura, Patara and Sidyma in Lycia and Pamphilia, Cambazlı, Lydae, Selinus and Topalların Çeşme in Cilicia.[835] All these ancient cities contain monumental tombs of the type *templum in antis*, with none, two or four columns in front and in some cases with hypogeia. However, the Sagalassos *naiskos* tomb combines elements of several parallel examples into a unique ensemble. Three burial chambers were accessible, but subsequently closed off, from inside the *cella* itself, while the largest, central burial chamber had to be reached through a narrow corridor that opened in the middle of the podium's front facade. This made the construction of a permanent flight of steps towards the *pronaos* impossible. This might have been intentional, in order to prevent unwanted visitors to the most sacred part of the tomb. Similar arrangements are rather common in Pisidia (cf. Arykanda, Termessos).

The 2013 sounding executed behind the *naiskos*, within the *temenos*, provided us with convincing (additional) chronological information to date the construction of the tomb. The tomb and surrounding *temenos* was at least partially constructed on top of the remains of a Roman Imperial pottery workshop (see § 6.3.2), of which the final period of occupation could be dated to the period 225-300 AD.[836] This workshop was not completely

[832] The description of the tomb is based on the 2012 and 2013 preliminary field reports by Johan Claeys. The initial 1999 excavation campaign was performed under supervision of Jeroen Poblome. The 2012 and 2013 excavations have been concisely published in the *XXXV.* (Turkish) and *XXXVI.* (English) *Kazı Sonuçları Toplantısı*. The 2013 campaign was limited to a sounding.

[833] 'Chamber' is in fact the adequate word. An inscription in the door lintel of a the temple tomb complex of Ti. Kl. Perikleia in Termessos not only mentions the sponsor and the owner of the tomb, but also describes the different parts of the complex. In this detailed description, the *cella* is called '*οικος*' (room/chamber) (Heberdey & Wilberg 1900, 205-207), signifying that the tomb is regarded as the house of the deceased (Köse 2005a, 113).

[834] Cormack 2004, 14. See also Berns 2003, 144-145, who mentions Arycanda and Kremna temple tombs as the most reliable representations of actual sacral architecture.

[835] Berns 2003, 169-261; Cormack 2004, 161-332.

[836] Based on a detailed study of the ceramic finds by Philip Bes and Jeroen Poblome.

abandoned, but kept on functioning after an intensive reorganisation and reorientation of the infrastructure, until eventually the Late Roman workshop would be replacing the Imperial one. The data procured from the workshop remains both inside and outside the *temenos* of the *naiskos* tomb now allow us to establish that the most likely construction date of the tomb should be set in the second half of the 3rd century AD.

The exterior of the tomb

The best preserved part of the building is the back wall, standing to an absolute height of 1587.13 m, exactly 3.06 m above the floor of the central burial chamber and 1.50 m above the floor of the *cella*. In the 2013 sounding it could be established that the back wall, including its foundations, was still standing 3.20 m tall. However, not only the foundation trench was backfilled, also the remains of the 1st-3rd century AD pottery workshop (see § 6.3.2) within the *temenos* had to be reburied. The original walking level associated with the first period of use of the *naiskos* was thus *c.* 0.70 m above the foundations. This is confirmed by a small niche in the back wall of the tomb, which would only be at eye level at this original walking level (**Fig. 7.26**). This niche might have been used to accommodate an oil lamp, which could have been kept alight or could have served during ritual activities.[837]

Fig. 7.18. Masterplan and aerial picture of site PQ 1 during the 2012 excavation campaign. This site includes the so-called east slope workshops in the west and the *naiskos* burial compound in the east. See also Attachment 4.

[837] Hope 2009, 102.

To smoothen the appearance of the walls, the outer surface was originally covered with plaster. Two layers of plaster could still be distinguished along the west and south sides of the tomb's podium: a reddish layer covered by a white layer. The underlying reddish layer is not a rough mortar substratum for an outer layer, so both layers are probably sequential in time rather than contemporary. There are no preserved indications that the temple-tomb was also covered with layers of plaster, but the remains of these upper parts were obviously more prone to weathering (the plaster layers along the walls of the podium are only preserved because a later partial backfill of the *temenos* was compacted and trampled into a new walking level). Moreover, considering the fact that the standing walls were at least partially constructed of limestone rubble and that even the irregularities of the podium were effaced with plaster, there is little doubt that at least the same effort would have been applied to the *naiskos* itself. The plaster might have served as a substrate for colourful paintings of garlands and flowers, a common practice in Roman *necropoleis*.[838] Even though classical tomb paintings are virtually undocumented for Anatolia and not preserved in Sagalassos[839], the sculptured versions of garlands, wreaths and other floral motives were the most common motifs in contemporary funerary art attested by Veli Köse for the *necropoleis* of Sagalassos.[840]

The *pronaos*

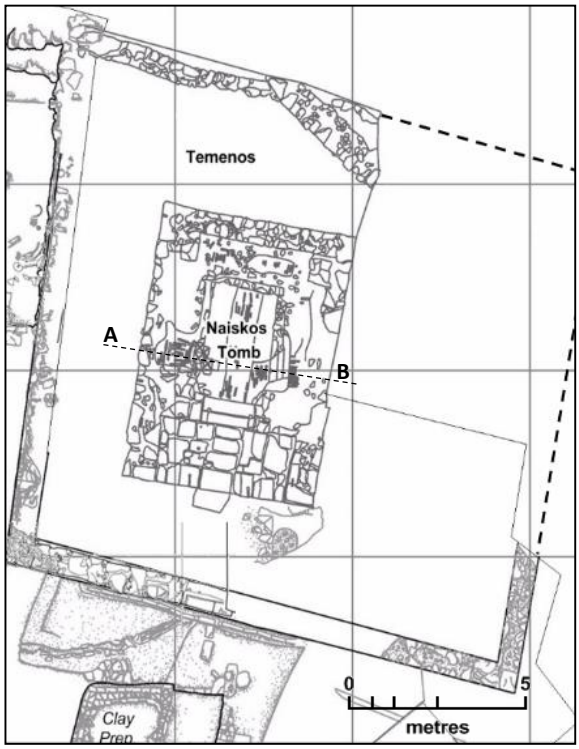
The *pronaos* was mainly constructed in ashlars. The 0.90 m wide *antae* enclosed a space of 3.70 m wide by 1.75 m deep. Two columns originally stood in the front of the porch. Columns nor bases are preserved, but their negative imprints (slightly sunken slot for the column bases) and dowel holes are still there (**Fig. 7.24**). The column bases stood 1.10 m apart (compare with the 1.14 m wide door opening towards the *cella* mentioned below). The *antae* on both sides of the *pronaos* were enhanced with plinth profiles, which nevertheless did not match in style and height (the east profile being somewhat lower and more finely executed). The plinth profiles appear to be limited to the front and inner sides of the *antae*; if they originally continued along the sides of the temple, they must have been executed in plaster. A deep, narrow (*c.* 8 cm wide) hole can be seen in the ashlar behind the west column. The bottom of this hole could not be reached. However, it does not end into one of the burial chambers, which makes a possible libation purpose unlikely.

From the *pronaos* the *cella* could be reached by stepping over a 0.35 m high threshold. Even though none of the door posts are preserved, the marks and holes in the threshold show that the passage was 1.14 m wide and that there originally was a double-winged door (pivot holes for hinges on both sides of the passage). The original height of the door cannot be reconstructed. In 1999 an ashlar block found nearby was identified as the door lintel (**Fig. 7.22**). The dimensions of the ashlar and the distance between both pivot holes indeed fit the dimensions of the door opening. Furthermore, the same excavations also revealed the inscription that once adorned the door frame of the tomb. The inscription[841] reads:

> "*Πωλίωνι τῷ υἱῷ ἡ μήτηρ Θεοπάτρα τὸ μνημῖον κατεσκεύασεν.*"
> (*μνημῖον*: read *μνημεῖον*)
>
> "The mother Theopatra has erected this memorial for her son Polion."

Both names are not known from any other inscriptions in Sagalassos, which makes it impossible to make any statements with regards to the family, their status and the context of the burial. The characteristics of the lettering suggest a date after 212 AD. The only other inscription that we can attribute to a temple tomb in the Eastern Suburbium, *i.c.* tomb G4, refers to a man erecting the tomb for his wife (see further).

[838] Hope 2009, 102, 161.
[839] Steadman & McMahon 2014, 760.
[840] Köse 2005a.
[841] Köse 2005a, 130. This inscription is as yet unpublished; the original transcription and translation were done by Veli Köse and S. Şahin and have been corrected by Katelijn Vandorpe (professor Ancient History at the University of Leuven).



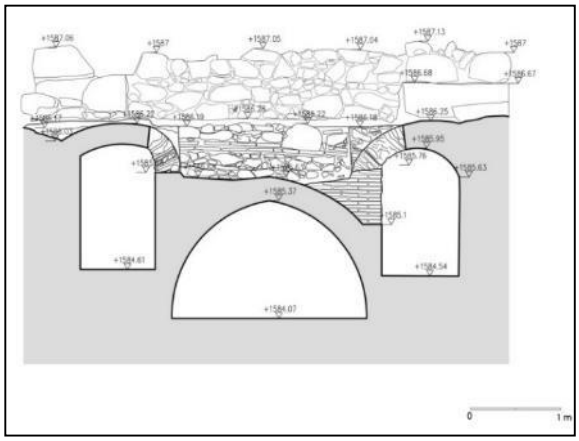


Fig. 7.19 (above). Section A-B through the *naiskos*, including the *cella* and the eastern, western and central burial chambers.

Fig. 7.20 (left). Masterplan of the *naiskos* tomb at site PQ 1, including the 2013 excavation results. The *peribolos* wall surrounding the *temenos* is tentatively reconstructed with a dashed line; there are no clear geophysical results from this northeastern corner section. Section A-B is represented in Fig. 7.19.

Fig. 7.21. Front view of the *naiskos* tomb at site PQ 1, view is taken from the south, from the original entrance through the *temenos* wall. The original floor on which the *naiskos* was constructed is still between 0.80-1.10 m deeper. The corridor leading to the central burial chamber is visible, as are the *antae* and the threshold leading towards the *cella*.

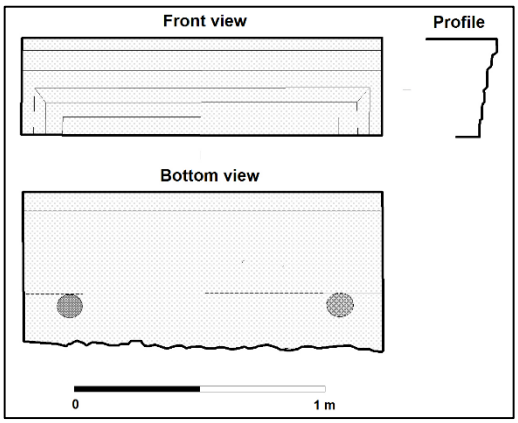


Fig. 7.22. Drawing of the door lintel, which was found a few meters southwest of the *temenos*. Original field drawing by Veli Köse, 1999.

The *cella*

Once inside the *cella*, the floor consisted of the top of the brick vault covering the central, large burial chamber (*hypogeum*) underneath (**Figs. 7.19**-**7.21**). To level this surface, a smooth mortar fill was applied on top of the steeply declining edges of the vault. The middle part of the floor, however, was left untouched, resulting in a slightly uneven walking surface. There are no indications that floor slabs originally covered the interior surface. This central part of the *cella* measured 1.85 by 2.95 m. On three sides (west, north and east) there were platforms created by the vaults of three additional, more narrow burial chambers. These platforms originally could have

accommodated three *sarcophagi*, as is for example the case in the well-preserved temple tombs in Lycian Arycanda.[842] No remains of these stone coffins have been found, but since the building has been intentionally stripped – most probably to recover building material – the original *sarcophagi* might also have been recovered as well. Indeed, barely any debris associable to the structure has been uncovered in the surrounding layers of the tomb, a clear indication that the reusable building materials were towed away. Similarly, the *sarcophagi* might have been usurped, just like the rest of the tomb, as free-standing tombs. All three platforms measure 3.15 by 1.25 m. Shallow recesses in the three walls would have created a niche-like effect for the *sarcophagi*.

The *cella*, with the three platforms as *klinai*, effectively evokes a *triclinium* setting, both in layout as well as in size. The presence of *triclinia* in their domestic sense has been suggested for the Domestic Area in Sagalassos[843]; in any case, *klinè* banquets (reclined dining) would have been a known concept in Sagalassos. Even though we could conclude from the convivial settings at the PQ 2 *schola* that the working classes more probably held their communal meals seated at tables, the reclined fashion might have been reserved for more elite households (and as an ideal motif for their tombs). Reclined dining followed strict rules for the placement of the participants[844], and thus we might expect that the funerary setting adhered to a similar logic, with the main figure, either the *materfamilias* Theopatra or her son Polion, buried in the *sarcophagus* opposite the entrance.

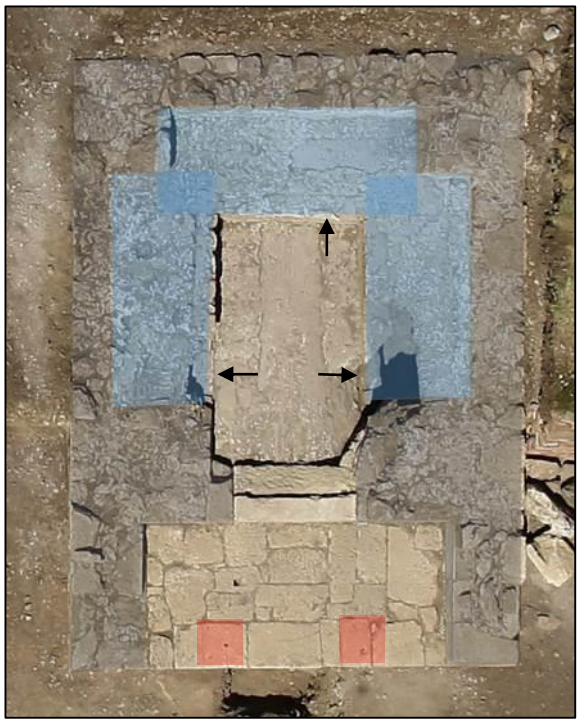


Fig. 7.23 (above). View from the south on the inside of the central burial chamber of the *naiskos* tomb, after documenting and collecting the buried remains. The well-preserved imprints in mortar from the vault allow to reconstruct the frame that was erected to build the vault. The ceiling of the central burial chamber at the same time served as the floor of the *cella* above.

Fig. 7.24 (above left). Aerial picture of the *naiskos*, with indication of the standing walls (grey) and the '*triclinium* setting' of the platforms in the *cella* (blue). The imprints of the two columns *in antis* are indicated in red. The arrow indicate the entrances to the partially subterranean burial chambers underneath each platform, with the northern burial chamber still closed to this date.

The central burial chamber

The central burial chamber (**Fig. 7.23**) of the *naiskos* tomb could only be accessed through a corridor underneath the *pronaos*, with its doorway in the middle of the south front of the podium (Fig. 88). This entrance was hidden from view by steps, actually an improvised construction of loose large limestone rubble, leading up to the superstructure of the *naiskos* tomb. This stepping arrangement was most probably not part of the original setup

[842] The *sarcophagi* in at least one of the Augustan Arycanda temple tombs (nr. 11) were added in Middle Imperial times (Berns 2003, 145, 179-180).
[843] DA 2006 internal excavation report by Inge Uytterhoeven.
[844] Dunbabin 2003, 39-40.

of the tomb (see earlier). The narrow doorway measured 0.60 m in width and 0.72 m in height and opened to a corridor with the same dimensions and a length of 2.55 m. The entrance was closed off with a vertically positioned tuff slab covering almost the whole opening, but leaving a gap large enough for small burrowing animals to scavenge through the burial chamber (see § 8.4.3).

This chamber measures 2.97 m in length, 2.17 m in width and 1.30 m in height. Its floor level is 10 cm below the floor level of the corridor leading up to it. The south wall of the burial chamber and the lower halves of the other walls are constructed of limestone rubble, while the upper part of the northern back wall and the vault are constructed of brick (measuring 28 x 28 x 3 cm). The construction is very well preserved; the negative imprints in the mortar make it even possible to reconstruct the size and location of each individual component of the wooden frame that was used to build the vault: the planks had an average length of 1.49 m (half the length of the chamber) and width of 0.20 m.

Even though the construction of the *naiskos* tomb at site PQ 1 can be most probably dated to the 2nd century AD, its final phase of use − including all content of human and material remains − can be dated to the late 4th or 5th century AD. Those aspects will therefore be discussed in the relevant § 8.4.3.

Fig. 7.25. North wall of the *naiskos*, view from the north wall of the *temenos*. The conservation specialists, standing in the foundation trench, are working on the wall plaster, well preserved under the compacted 4th century AD walking level. The original walking level, however, was *c.* 0.80 m lower and corresponded with the small niche at eye-level recognisable in the top right corner of the picture.

Fig. 7.26. The niche in the back wall of the *naiskos* tomb might have been used, for example to house an oil lamp.

The western, eastern and northern burial chamber

Three vaulted burial chambers or hypogeia can be reached from the *cella* of the *Naiskos*. The western tomb measures 2.20 m in length, 0.82 m in width and 1.35 m in depth (**Fig. 7.27**); the dimensions of the eastern tomb are very similar with a length of 2.23 m, a width of 0.86 m and depth of 1.43 m. Both burial chambers are constructed of brick and have barrel vaults (brick dimensions 28 x 28 x 3 cm). Transversely positioned bricks serve as key stones to form the top of these vaults. The entrances from the *cella*, positioned at the south end of the chambers, are covered by vaults perpendicular to the longitudinal vault. These entrances are cut sideways into the burial chambers, directed towards the entrance of the *naiskos*. This arrangement was probably to ease the entombment in coffins. After the deceased was deposited the entrances were closed with a mixture of brick and limestone rubble. Both the east and west burial chambers were reopened, most probably by grave robbers in ancient times. The north chamber, however, was left untouched and is at present still unopened (the entrance might have been out of reach for the plunderers, possibly because of a partial collapse of the building). The floors of both studied burial chambers are mortared, resulting in a rather irregular surface. The walls of the western chamber were mortared as well, while the walls of the eastern chamber remained bare.

Even though the construction of the *naiskos* tomb at site PQ 1 can be most probably dated to the early 3rd century AD, its final phase of use − including all content of human and material remains − can be dated to the late 4th or 5th century AD. Those aspects will therefore be discussed in § 8.4.3.

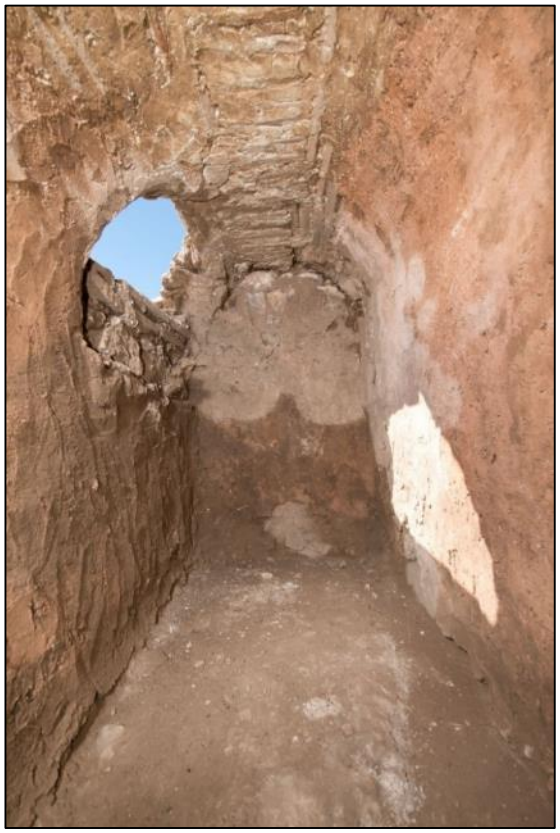


Fig. 7.27. Inside the western burial chamber of the *naiskos* tomb at site PQ 1, view from the north.

Fig. 7.28. Threshold of the *temenos* surrounding the tomb, view from the east.

The *temenos*

The *naiskos* temple tomb stood central in an almost square burial plot, the *temenos*, which was surrounded by a sizeable *peribolos* wall (**Figs. 7.19**-**7.20**). The wall surrounds an internal area of *c.* 180 m² (13.05 m north-south by 13.5 m east-west); a total surface of *c.* 220 m² including the *peribolos* itself. The wall is all around 0.75-0.80 m wide and must originally have stood to men's height. The construction consisted of mortared rubble and at least the inner side of the wall was covered with white plaster. In the middle of the south wall of the *temenos*, opposite the *pronaos* of the tomb, the wall has its own rather monumental entrance (**Fig. 7.28**). The threshold has only been partially exposed, but the door opening is estimated to have been 1.60 m wide originally (based on grooves in the threshold that are interpreted as the middle of the entrance). This threshold corresponds with the walking level that was interpreted above as the 4th century AD level. Since this walking level is 0.75 m higher than the level that in 1999 and again in 2013 was interpreted as the 3rd century AD walking level, the *temenos* might originally have been intentionally difficult to enter (see also earlier for the entrance to the tomb itself). In front of the south wall of the *temenos*, on the outside, runs a water channel constructed of terracotta pipes. This channel's foundation was built of tiles and middle sized limestone placed on top of the ophiolitic bedrock.

7.4.3 The *Gräberstrasse* at site PQ 3[845]

Within the 2012 trenches dug at the site PQ 3, remains of a monumental tomb, as well as a stretch of the surrounding *peribolos*, were uncovered to the southeast of the clay mining area (see § 5.3.2). Based on the geophysical survey and an additional thorough field survey of the area through clearing the surroundings of vegetation, the *temenos* can be tentatively reconstructed as a compound covering an area of *c.* 360 m² (compare with the *c.* 220 m² of the *naiskos* tomb). Immediately adjoining this burial compound, only interrupted by a side street from the main road, was another, even larger *temenos* covering an estimated area of *c.* 445 m². In both *temenoi* remains of *sarcophagi* and a large burial monument were uncovered. Also the opposite side of the main street was lined with tombs, as is attested by the many *sarcophagus* remains that are still currently visible at the surface. Nevertheless, there are no indications for any permanent structures in the Central Depression itself, and the funerary presence beyond the turn of the large limestone quarry to the southeast appears to have been limited to isolated *sarcophagi* lining the road. The actual *Gräberstrasse*, a major access route into the city lined by tombs[846], thus seems to have been rather limited in length[847]. Still, this is the most likely stretch of road in the Eastern Suburbium that meets the *Gräberstrasse* criteria, since in the central parts of the quarter the tombs are outnumbered by artisanal workshops and the concentrations of tombs on the steeper slopes to the north, east and south are not located near any major thoroughfare. The steepness of the terrain cannot be evoked for the absence of walled *temenoi*. As Veli Köse also attested in his surveys of the *necropoleis* of Sagalassos, even the steep, rocky hillsides were generally subdivided by *periboloi* into burial plots, which were accessible through a network of by minor roads and paths.[848]

The layout of the tomb encountered in the northernmost *temenos* of the PQ 3 trenches shows similarities to the *naiskos* tomb described above. The tomb runs parallel to its *peribolos* wall, oriented northeast-southwest, transverse to the main road. Only the northwestern and northeastern corners of the tomb have been uncovered, in two different trenches. Nevertheless, it was possible to establish the width of the monument as 4.90 m, which is slightly smaller than the 5.40 m wide *naiskos* tomb. If the building indeed follows more or less the same plan as the *naiskos* (see further), the length of the structure must have been between 6-7 m, which does not contradict with the difficult to interpret geophysical data.

In contrast to the *naiskos* tomb of site PQ 1, the monument is constructed in an *opus mixtum*, with copious use of brick (dimensions of 28 cm by 28 cm by 4 cm) in the standing walls (**Fig. 7.30**). The lowest foundation courses consist of large, roughly worked limestones, built directly on ophiolite bedrock. They rise 0.70 m tall from the bedrock and are heavily mortared in place. The foundation stones jut out 9 cm from the upper, standing walls. This appears to have corresponded to the original, dirt, walking surface associated with the monument, and this surface also corresponds in elevation to the layer of bedrock underlying the enclosure wall. The standing walls' faces consist, as far as could be deduced from the limited exposed walls, of alternating sections of brick and heavily mortared limestone rubble. The entire wall face appears to have been finished with a 4 cm thick layer of grayish-white plaster. The back wall was two brick courses wide (wall width of 0.58 m), while the corners were four courses wide (wall width of 1.27 m). A single, well-finished limestone paving stone was uncovered running parallel to the back wall, which was interpreted as the floor of an interior burial chamber (**Fig. 7.31**). The thickness of the walls, corners and the location of the burial chamber concur with the general subterranean ground plan of the *naiskos* tomb.

The associated *peribolos* wall was exposed over a length of 3.60 m. It is a substantial wall (with a width of 1.0 m and a maximum preserved height of 2.0 m) and is a dry-stack construction composed of large limestone rubble blocks. Since several wall blocks are partially outcropping above the modern surface, it is possible to reconstruct

[845] The descriptive elements mentioned throughout these paragraphs are based on the 2012 internal excavation report by Elizabeth Murphy. A concise version of this report appeared in the *XXXV. Kazı Sonuçları Toplantısı* (Turkish).

[846] See for example Von Hesberg & Zanker 1987 for a series of articles on Roman streets of tombs.

[847] Veli Köse remarks how the topography surrounding Sagalassos makes the fitting-out of a *Gräberstrasse* rather more troublesome than in other well-studied *necropoleis* in Anatolia. Nevertheless, Köse could establish the formation of alignments of tombs along the major access routes within all the *necropoleis* of Sagalassos (Köse 2005a, 115-116).

[848] Köse 2005a, 17-22, 259 Abb. 33, 260 Abb. 34.

the wall beyond the 2012 excavation area. From these observations, the enclosure wall continues *c.* 9.5 m to the southwest where it turns 90° northwestwards and further runs parallel to the main road. The northern continuation of the enclosure wall is more difficult to interpret, since the colluvium has buried the remains, but the geophysical map provides some additional indications which allow us to tentatively reconstruct the total area covered by the *temenos* (**Fig. 7.29**).

A second *temenos* is located to the southwest, immediately across the side street separating both burial compounds. This burial compound, exposed over a length of 4.5 m, was surrounded by a *peribolos* of 0.70 m wide. The wall was constructed of large limestone rubble, heavily mortared in place. The remains of another large burial monument, *i.c.* a cassette block and several large fragments of a fluted architrave with dentils, are visible at the modern surface approximately 15 m to the southeast. This *aedicula* tomb must have been the central feature of the burial compound. The results from the geophysical survey of the area allow to reconstruct parts of the *peribolos*, but the exact locations of the southeastern and northeastern walls remain unclear. However, if the *aedicula* tomb stood more or less in the middle of the compound, then a total surface of *c.* 525 m² should be imagined. Since only a fragment of the compound fell within the burial trenches, few indications could be gathered for dating the structure. Nevertheless, a construction date around the same time as the adjoining burial compound can be imagined, since both appear to be part of a larger-scale development along the access route into the Eastern Suburbium.

Fig. 7.29. The PQ 3 trenches (in red) revealed an actual *Gräberstrasse*, with large burial compounds lining the main road leading into the Eastern Suburbium from the southeast. The red squares represent *sarcophagi*, the red triangles large burial monuments. Full black lines represent certain walls; dashed lines represent more tentative reconstructions.

Fig. 7.30. The *opus mixtum* northeastern corner of the burial monument at site PQ 3, with patches of the plaster wall covering preserved *in situ*.

Fig. 7.31. View from the north on the exposed northwestern corner of the burial monument, with the limestone slab of the burial chamber disappearing under the profile.

7.4.4 *Aedicula* tombs in the Eastern Suburbium

In his comprehensive survey and study of the funerary remains at the site of Sagalassos[849], Veli Köse also describes the remains of four *aedicula* tombs in the Eastern Suburbium (G4 on **Fig. 7.49**; G5-G7 on **Fig. 7.41**). These represent only a small segment of the total amount of built funerary monuments present within these quarters (see § 7.4.6), but few of the other (presumed) tombs provide enough data to make statements on their original layout. *Aedicula* tombs are the funerary equivalent of the tabernacle frames that highlight their contents, whether an inscription, a statue, a cultic object or the like. Their use in *necropoleis* is to give importance to the burials and the monument themselves.

Tomb G4 is the only monumental tomb that could be identified during a survey of the rocky slopes south of the Eastern Suburbium, where it is surrounded by *sarcophagi* and *arcosolia* (**Fig. 7.49**). This is an atypical location, since no other structures of considerable dimensions could be attributed to these steep cliffs. A path passes through the gorge, which forms the shortest connection between the Central Depression and the lower parts of the city centre of Sagalassos. While most probably unsuitable for wheeled traffic, this might still have been a rather busy track, which is highlighted by the density of funerary monuments lining both sides of the road. The tomb would have been accessible via a side track of this road. Among the remains visible at the surface are several architrave blocks, which allow to reconstruct the inscription it carried[850]:

> *"Αὐρήλιος Νήρυτος Εἰάδος Π[λ]οκάμου Αὐρηλίᾳ* I *Ἐλπίδι γυνεκ[ὶ] αὐτοῦ μνήμης χάριν"*
> (*γυνεκ[ὶ]*: read *γυναικ[ὶ]*)
>
> "Aurelius Nerytos, son of Ias, grandson of Plokamos [erected this tomb] in memory for his wife Aurelia Elpis."

None of the names can be linked with any of the families known from other inscriptions in the city of Sagalassos, even though there are several references to a Marcus Aurelius-family.[851] They probably belong to another family, who received their Roman citizenship after the *Constitutio Antoniniana* from Caracalla, thus not before the 3rd century AD.[852] The architrave was crowned by an undecorated frieze and neither the *sima* nor the *anthemion* (with lotus-palmettes) provide more closely dateable indications. Several fragments of the cornice with decorative cassettes were preserved were visible during the survey, among which a shield-with-spears and a

[849] Köse 2005a. This inscription is as yet unpublished; the original transcription and translation were done by Veli Köse and have been corrected by Katelijn Vandorpe (professor Ancient History at the University of Leuven).
[850] Köse 2005a, 129-130.
[851] Devijver 1996.
[852] Köse 2005a, 118-119, 129-130.

rosette could be recognised. The cornice appears to have been surmounted with either a canopy or a pediment, both of which are architectural styles attested for in Sagalassos. Both columns are missing. Based on the lack of other visible building elements, Köse suspects that the structure did not make part of a larger complex, but rather stood isolated on a socle and profited from a rocky outcrop as its rear wall. There are no indications for what the type of burial the tomb would have contained.[853] Similar tombs, containing either *osteothekoi* or *sarcophagi* (**Figs. 7.32**-**7.33**), can be found in the *necropoleis* of Termessos, bearing witness of a long tradition dating back to Hellenistic times.[854] The same tradition in *aedicula* tombs is also attested in the Eastern Suburbium at Sagalassos, since the Hellenistic burial monument at site F (see § 5.4.4) can be considered as an early predecessor.

Tomb G5 (**Fig. 7.34** and **Fig. 7.41**) is located on a prime location, *i.c.* a conspicuous bluff of the ridge bordering the Eastern Suburbium which offers wide views over its surroundings and the valleys below. The tomb could probably be reached via a side track from the road passing the large Imperial burial compound of site PQ 4, which is located no more than 25 m to the northeast. Because the remains of this tomb were not buried underneath layers of erosion, most of the structure can be reconstituted based on the blocks visible at the surface. The appeal from its obvious presence in the landscape and the lavishness of the remains also made it the subject of illegal excavations. The tomb consisted of a U-shaped space, measuring *c.* 3 m by 5.5 m. The width between both front columns could be calculated to *c.* 2.05 m. One of the arch segments was reused in a 'modern' corral to the northeast, the others are strewn about in the immediate surroundings of the structure's original entrance. Because of its prominent location, there probably was no necessity for a high podium; a few steps might have sufficed. The *antae* were crowned with Doric capitals and a Syrian gable.[855] The entablature consisted of an architrave, fluted frieze and cornice with dentils, of which the decorations were only completely finished above the *antae*. The tomb was large enough to accommodate three *sarcophagi* and an altar. The decorative patterns of the altar, which was encountered among the debris, were apparently never applied.[856]

Tomb G6 (**Fig. 7.41**) is located *c.* 15 m west of tomb G5, positioned on the same bluff of the eastern ridge and accessible through the same side track. While tomb G5 is oriented south towards the valley, tomb G6 is opening towards the west and thus overlooking the *suburbium*. The columns are missing, but a column façade in front of either a U-shaped *cella* or a straight back wall should be envisaged. The tomb was probably positioned on top of a high podium. The tomb carried a cassette panel ceiling with both floral and figurative motifs (shell, branches, Medusa head). The frieze is fluted, while the soffits are decorated. The *aedicula* was built over an altar, which originally was most probably flanked by *sarcophagi*. The altar carried a bust of a woman on one side, and a bust of a man on the opposite side.[857]

Tomb G7 (**Fig. 7.41**) is located on more grounds in the central parts of the Eastern Suburbium, oriented towards the south and accessible via one of the east-west main thoroughfares of the artisanal quarter. Also in this case the (marble?) columns were missing, as in many other buildings of Sagalassos (see also **Fig. 7.42**)[858], and many of the remains are buried. The tomb probably constructed on top of a high podium and consisted of a façade with columns and a U-shaped *cella* or a straight back wall. Based on a recovered archivolt block the tomb had a Syrian gable. The cassette ceiling carried floral motifs (rosettes); the architrave, *sima* and soffits are undecorated. Similar to tomb G6, the G7 tomb contained an altar and probably *sarcophagi*.[859]

[853] Köse 2005a, 118-119, 227.

[854] Lanckoroński 1892; Heberdey & Wilberg 1900.

[855] This was common also in tombs from Termessos (Lanckoroński 1892, 114-115 Figs. 83-84, Heberdey & Wilberg 1900, 198 Fig. 71, 200 Fig. 73, 204 Fig. 79). The Syrian gable is, in fact, the combination of both the triangular and arched pediment, both of which are attested for in the *necropoleis* of Termessos.

[856] Köse 2005a, 119-120, 227, with data added by author's own observations during field survey.

[857] Köse 2005a, 119-120, 227-228.

[858] The most likely explanation for the absence of columns in many excavations of Sagalassos structures – which makes columns significantly underrepresented in comparison with other building elements – is that they were burnt in lime kilns. Several such (early Byzantine) kilns have been uncovered at the site, among which in the eastern exedra of the Roman Baths (RB 2011 internal excavation report by Rob Rens) and in the excavation trenches of the site Library East (LE 2012-2014 internal excavation reports by Hendrik Uleners).

[859] Köse 2005a, 119, 228.

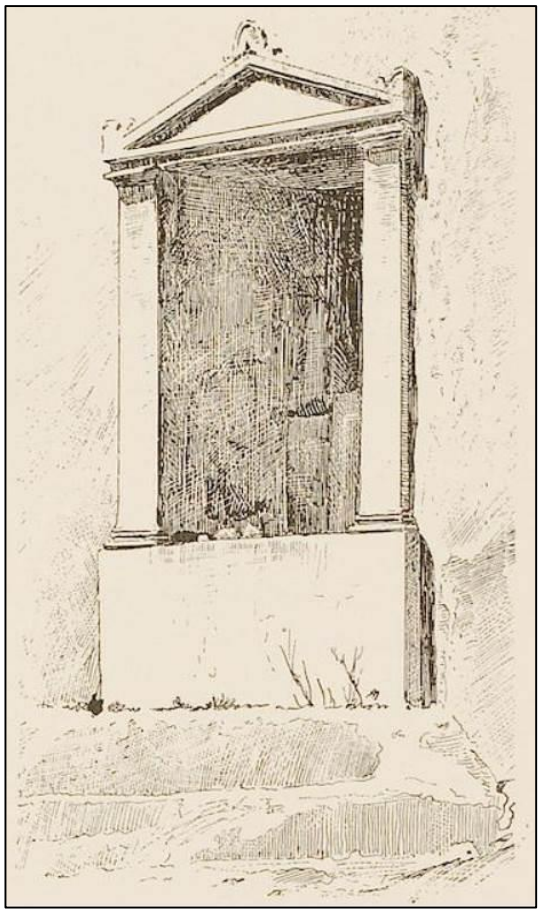


Fig. 7.32. Rock-cut *aedicula* tomb at Termessos. From Lanckoroński 1892, 69 Fig. 20.

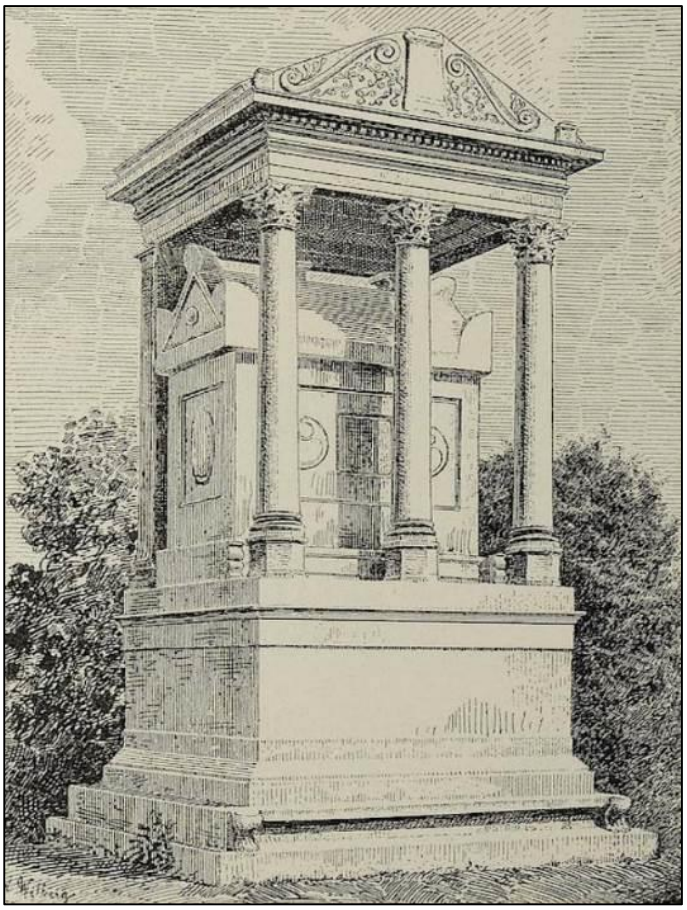


Fig. 7.33. Three-columned *aedicula* tomb at Termessos. From Heberdey & Wilberg 1900, 190 Fig. 64.

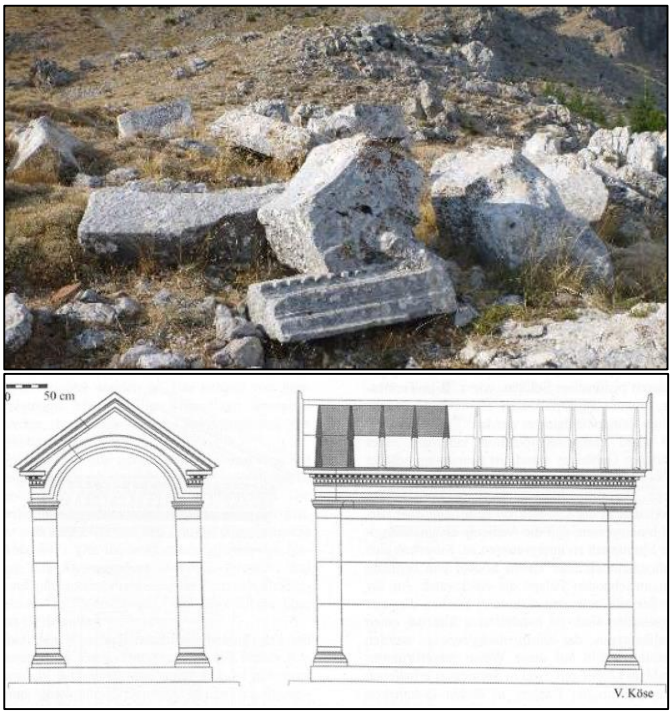


Fig. 7.34 a/b/c. *Aedicula* tomb G5, located on a prominent bluff of the eastern ridge of the Eastern Suburbium at Sagalassos. Views from the north (a), from the south (b) and a restitution drawing (c). Drawing from Köse 2005, 120 Abb. 24.

7.4.5 Family tombs at site D and site F

Site D monumental family tomb[860]

In 1989, site D was the first (rescue) excavation performed at the site of Sagalassos, under supervision of Marc Waelkens and the Burdur Museum. The tomb was situated on the western slope of the Central Depression. There is no direct proof for a road or path passing in front of the tomb, though the monument would certainly have been visible from the road passing south of it. Indeed, it appears that the tomb is slightly oriented towards this road instead of following the ideal perpendicular angle to the steep slope (28 % at this spot).

The outer dimensions of the tomb total to a width of 4.00 m by a depth of 5.11 m (**Fig. 7.35**). The monument consists of an almost square tomb chamber, measuring 2.68 m by 2.57 m, behind an ashlar facade with two projecting *antae*. The rest of the walls were made of mortared limestone rubble and were originally plastered on both the inner and outer side. Inside the burial chamber two pilasters along the back wall, measuring 0.35 m by 0.45 m, seem to have supported a projecting brick vaulted arch. Evidence lacks to reconstruct how the rest of the tomb was roofed. The interior of the burial chamber was divided into two main parts, a higher back part and a 1.30 m deeper front part (**Fig. 7.37**). A 10 cm wide ledge along the deeper part could have supported a floor of wooden planks or stone slabs which would have extended the back part's level and which would have turned the front part into a *hypogeum*. The back part was further subdivided by small rubble walls into three separate graves. The main grave, however, would have been situated underneath the arch along the back wall.

Ceramic evidence from the tomb's foundation trench suggests a construction date towards the end of the 2nd or early 3rd century AD. The tomb was already looted in ancient times and the remains of the skeleton remains were severely disturbed throughout the tomb. Based on the dating of the intrusive ceramics inside the tomb, this must have happened most likely during the 5th century AD, when the tomb was no longer in use and after the roof had already (partially) caved in. The tomb and its surroundings were subsequently used as a dump for pottery and kiln waste.

The tomb might have been surrounded by a *peribolos* wall, but the excavation trench did not extend far enough to encounter any traces of these walls. The geophysical survey did not provide any clarifications regarding this question.

[860] A description of the tomb can be found in Waelkens *et al.* 1990b, 119-154.

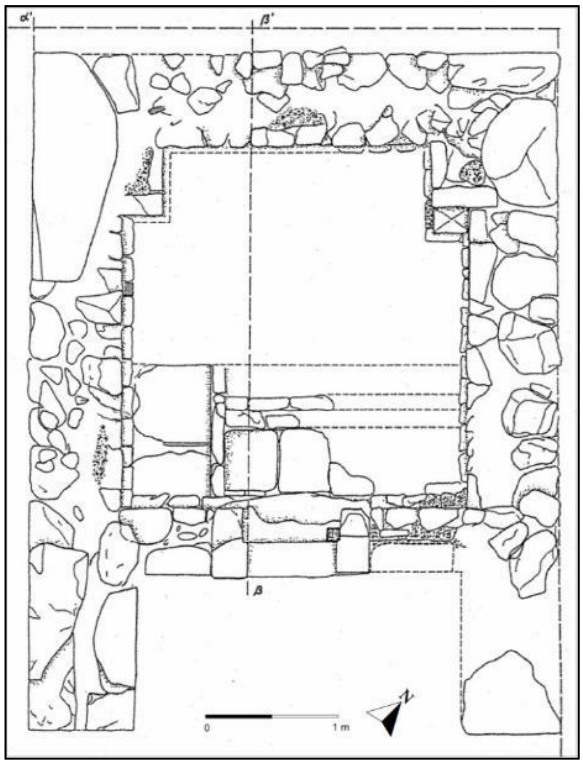


Fig. 7.35. Masterplan of the vaulted tomb at site D. Drawing by Marc Waelkens, 1989. The tomb chamber is preceded by a modest *pronaos* between *antae*.

Fig. 7.36. Masterplan of the vaulted tomb at Site F. Drawing by Muriel Huw & Marc Lodewijckx, 1990. This tomb possesses some 'mock *antae*' protruding from the facade of the building.

Site F monumental family tomb[861]

The upper trench of site F was the subject of excavation campaigns in the years 1990 and 2011-2012. The first campaign at site F, in 1990, was supervised by Marc Waelkens and Marc Lodewijckx. Within the upper stretches of this trench a vaulted tomb was uncovered, excavated and identified as a family tomb.

The outer dimensions of the rectangular tomb measure 3.7 m by 3.0 m; the inner dimensions 2.8 m (depth) by 1.95 m (width) by 1.85 m (height) (**Figs. 7.36**-**7.38**). The whole construction, including the vault, is made of mortared rubble − mainly limestone, few brick fragments. Half of the vault is still standing. Part of the east wall of the structure is supported by the ashlar west anta of the adjacent Hellenistic monument (see § 5.4.4). The foundations of the tomb were laid out in a trench dug in the (sloping) natural substrata consisting of ancient scree deposits. The builders clearly had the intention to withdraw most of the construction from view. Only the entrance and the roof would have been visible and accessible. This was confirmed by a sounding along the outer west wall, which exposed a very irregular face: the wall was built against the standing earth/scree profile of the foundation trench. The regular faces of the walls were reserved for the interior of the tomb and the upper part of the front wall containing the low and narrow entrance: the door opening towards the tomb was no more than 0.55 m wide and probably not much higher than that (the threshold still lies *in situ*, with pivoting holes indicating the exact width). Plaster was only applied on the inner walls and vault. The roof was originally covered with large, square *tegulae* (roof tiles measuring *c.* 0.45 by 0.45 m). No *imbrices* were preserved *in situ*. Remarkably, on top of these roof tiles, the roof was covered with dozens of large pottery sherds, positioned with their concave faces

[861] The tomb has been published briefly (Waelkens *et al.* 1991; Claeys & Poblome 2013, 248-249), but additional information is gathered from the 2012 internal excavation report by Johan Claeys.

towards the roof and imbedded in mortar (**Fig. 7.39**).[862] These sherds were subsequently covered with an artificial layer of limestone chips, as observed by the original 1990 excavation team. What the purpose was for such a feature could not be established with certainty, but, as discussed below, it might have been to further withdraw the tomb from view by allowing natural vegetation to grow over the construction. The roof tiles would still serve to prevent excessive water from penetrating through the roof of the tomb.

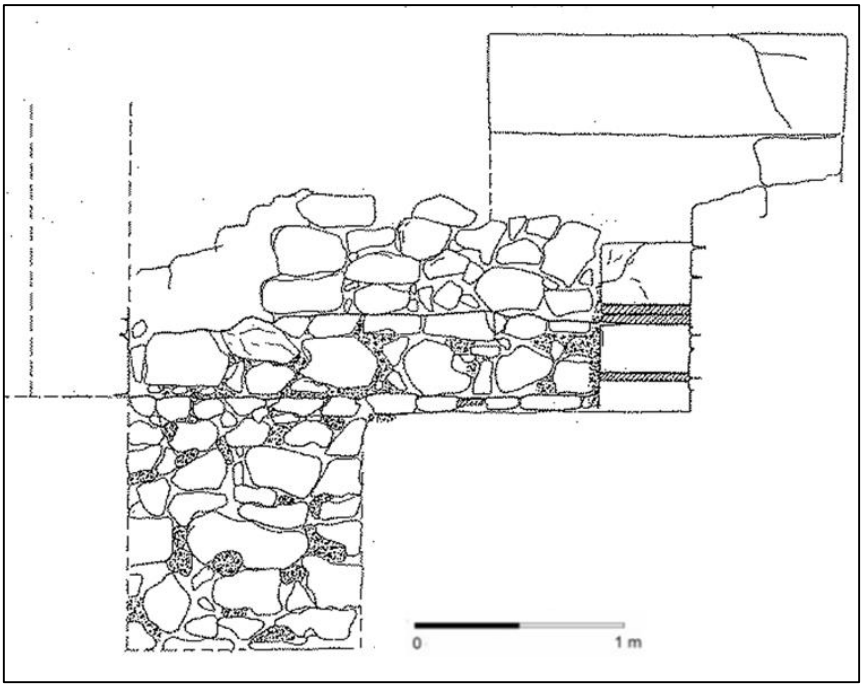


Fig. 7.37. Cross section β-β' (see Fig. 94) of the family tomb at site D, view of the southwest wall. The entrance is left on the drawing. Shaded areas represent bricks; dotted areas the remains of plaster. Drawing by Marc Waelkens, 1989.

Fig. 7.38 (above). Front view of the vaulted tomb at site F, view from the south. The threshold still lies *in situ*. The wall underneath, exposed in a small sounding, is clearly not meant to be exposed as was the case for the western wall. The eastern wall was supported by the adjacent Hellenistic ashlar monument.

Fig. 7.39. Roof of the vaulted family tomb at site F. The pottery sherds are *in situ*, most of them stuck in the underlying mortar, but are not part of the original 2nd century AD layout of the tomb.

[862] The original excavation report in Anatolian Studies 41 claims that the sherds were positioned underneath the roof tiles (Waelkens *et al.* 1991, 206). It is the other way round, however, as can be seen on Fig. 98. These sherds were also a few centuries younger than the construction of the tomb.

In the northeast corner of the burial chamber a small votive table would once have exhibited offerings. A 2.10 m long inner wall ran parallel to the east wall at a distance of 0.70 m. This wall corresponded with a ledge in the east wall, so once a wooden cover, parts of which were encountered during the excavation, would have closed of this coffin-sized space.

A low wall springs westwards from the southwest corner of the vaulted tomb, continuing beyond the western profile of the 2012 excavation trench. This wall was constructed simultaneously with the tomb itself, making it probable to identify it as the *temenos* wall of the respective vaulted tomb. This wall was constructed of small and middle sized limestone rubble. Few stone rows are preserved, but even originally it probably would not have exceeded waist height. It clearly did not have a retaining function as the parallel terrace walls to the north and south and only served to designate the extent of the *temenos* belonging to the vaulted tomb. The western limit of this *temenos* lay beyond the western profile of the trench. Also the discovery with additional geophysical survey in 2012 of another, similar construction (tomb?) 17 m west of the excavated vaulted tomb does not provide us with a clear maximum extend in western direction, since the western tomb appears to be located at a lower terrace (**Fig. 7.40**). There are not enough data at hand to reconstruct individual burial plots beyond the site F trenches and even within site F there are undoubtedly changes due to the long period of use of these terraces as funerary plots. There also seem to be some complications, which make the identification of individual plots all the more difficult, *e.g.* the vaulted tomb appears to be accessible only from the terrace below, the pits with remains of funerary meals also extend over two terraces. If all these features indeed belong to the same burial plot, the maximum total area covered by this plot would then be *c.* 400 m² (considering that the tomb showing up on the geophysical survey belongs to an adjoining plot). This falls within the (very wide) range of burial compound dimensions mentioned in the previous paragraphs. However, the modest quality of the tombs within the burial plot – especially from Imperial times onwards – does not seem to add up to the size of the plot (compare for example to the 220 m² of the monumental *naiskos* tomb). It is more likely that these terraces would have been subdivided into a series of smaller plots, not necessarily only by walls, but possibly by (non-preserved) hedges or fences in perishable materials. This is for example suggested by the precise alignment of the Hellenistic monument's remains with the two individual tombs, with the 'buttress wall' perpendicular to the upper terrace wall and also with the primary cremation context (**Fig. 7.40**). On the other hand, the individual pit burial would be cut in half if the eastern edge of the Hellenistic tomb would also be regarded as the eastern edge of its plot. There most likely was a wide variety in burial plot sizes, as could be observed in the other parts of the Eastern Suburbium as well (see paragraphs above). This observation, in combination with changes in plot partitioning throughout history, with ephemeral demarcations and with intrusive and usurping behavior of (seemingly) abandoned burial plots, makes it practically impossible to define individual plots on the basis of our current set of data.

Several finds made in the immediate surroundings of the tomb appeared to date its construction to as early as the 2nd century AD. One specific context gave a more solid indication: the pit with the feasting remains (see § 6.4.4) sets a *terminus ante quem* for the construction of the *temenos* wall in the early 2nd century AD, since the pit was clearly dug along this wall. It was already established that the wall was most likely built together with the tomb, from which it can be deduced that the tomb itself should be dated as early as well.

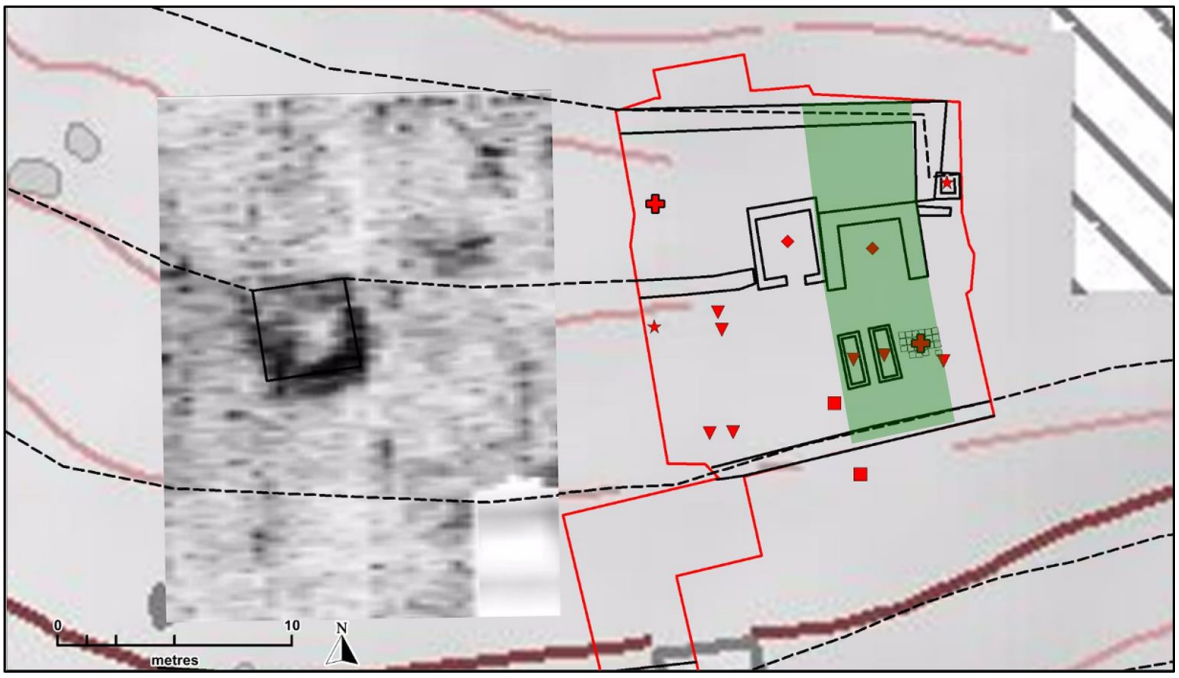


Fig. 7.40. Even though it is possible to tentatively reconstruct the subdivision of the northern slopes into separate terraces (dashed lines) and the geophysical survey revealed the presence of an additional tomb west of site F, there are not enough data at hand to reconstruct individual burial plots beyond the site F trenches. In green an elongated possible burial plot is proposed based on the seemingly tight alignment of several structural features. But this plot would then extend over two terraces and would cut through an individual pit burial which is overlapping in time with the two individual tombs.

7.4.6 Other monumental tombs in the Eastern Suburbium

Veli Köse defines monumental tombs as aboveground or underground funerary structures that not only serve as final resting place but also as memorials for the deceased.[863] Several monumental tombs have until now been (partially) uncovered during excavations in the Eastern Suburbium, spanning from the Hellenistic period to the 3rd century AD: the vaulted family tomb (see § 7.4.5) and Hellenistic Π-shaped tomb (see § 5.4.4) at site F, the family tomb at site D (see § 7.4.5), the *naiskos* tomb (see § 7.4.2), a multiple-chamber tomb at PQ 3 (see § 7.4.3) and the large Imperial burial compound at PQ 4 (see § 6.4.2 and § 7.4.7). The structure immediately west of the PQ 2 *schola* might be an ashlar-built tomb, but with only one corner exposed and no registration on the geophysical survey, this remains a tentative identification. Four more tombs have been described by Veli Köse (see preceding paragraphs). Nevertheless, field survey and careful observation of the geophysical survey results suggest the presence of many other presumed monumental tombs. Many of these identifications are tentative, since they are based on scant remains and not all can be linked to geophysical data. These are, however, ashlar-built architectural remains that cannot be linked with workshops or terrace walls, both of which appear to be mainly built in rubble. Several rubble walls could be documented as well, but since their identification is in many cases more troublesome – terrace wall, workshop, public building, temple or tomb? – they are not taken into account in these paragraphs. The vast majority of monumental tombs that could be recognized through field survey would have logically been aboveground structures. Even though the partially subterranean site F family tomb was the only structure visible on the scree-covered northern terraces till modern times, this should be regarded as an exception and (partially) subterranean tombs are more likely to escape the eye when field survey is the only available means of research.

[863] Köse 2005a, 111.

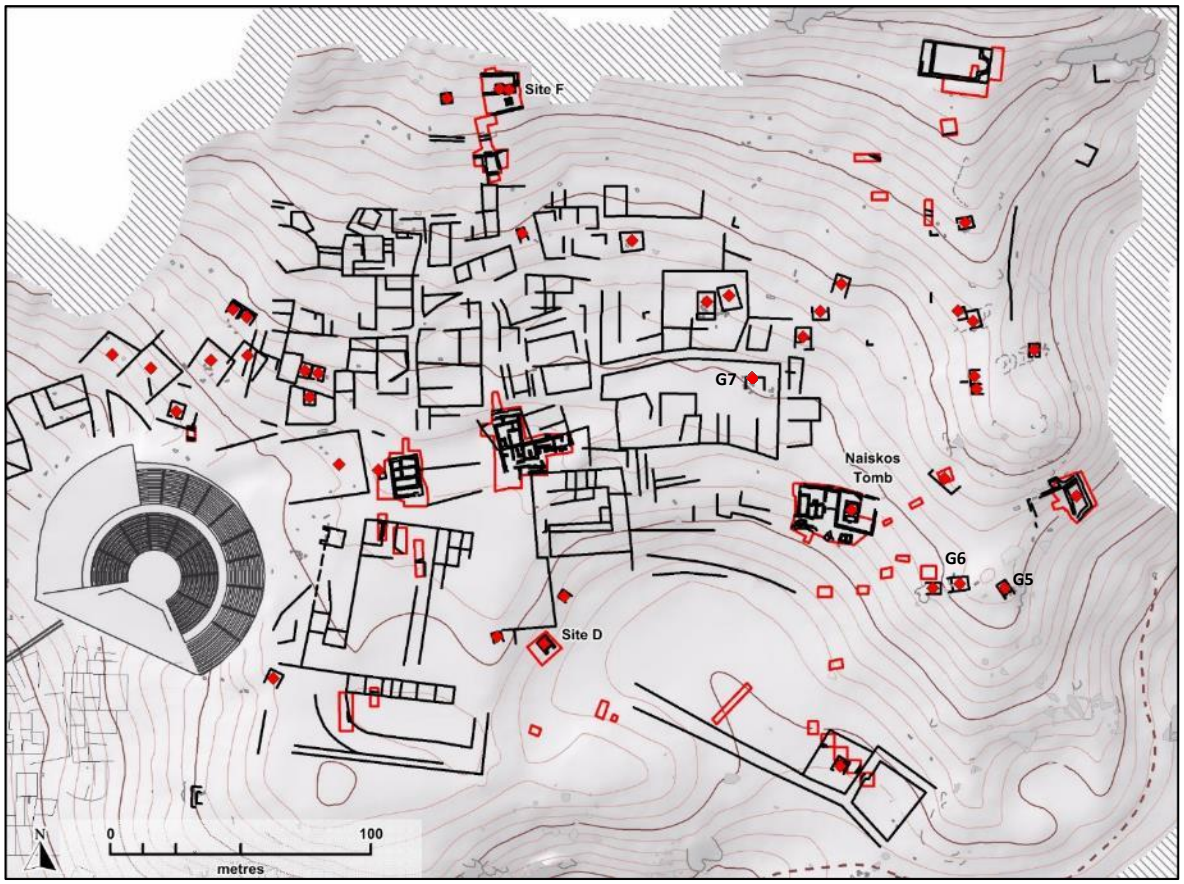


Fig. 7.41. Overview of the larger burial monuments and burial compounds in the Eastern Suburbium of Sagalassos (red diamonds), including the excavated *naiskos* tomb and the family burials at site D and site F. Veli Köse describes four more Grabbauten in his study on the *necropoleis* of Sagalassos, of which G5-G7 are indicated within this map (G4 lies more towards the south, see Fig. 7.49).[864] However, most of the monuments represented in this map were suggested on the basis of an intensive survey of the scant architectural remains visible at the surface. The thick layers of screes covering the terraces in the northern stretches of the Eastern Suburbium undoubtedly hide many more monuments.

Since monumental tombs themselves are indeed also built in limestone rubble (*e.g.* site F family tomb and to a large extent even the *naiskos* tomb), many more tombs probably still remain unidentified. Especially the northern slopes of the Eastern Suburbium might accommodate many more tombs that are covered under thick deposits of screes. Only site F (385 m²) and one geophysical 'trench' (580 m²) have been researched on these slopes, revealing three monumental tombs: the Hellenistic burial monument and Imperial family tomb at site F and, most probably, an additional tomb within the geophysical surveyed area. The total surface covered by the terraced slopes along the northern and northwestern edges of the Eastern Suburbium, however, is likely more than ten times the area that has been researched, even when excluding the probably undevelopable stretch of land covered by the aqueduct. We might thus rightfully expect the presence of dozens more completely buried monumental tombs (and hundreds of other types of burials) along the northern slopes. The density of visible tomb remains on the more exposed western terraces – 10 presumed tombs in an area of less than 3.500 m² – seems to confirm this.

The tombs were preliminarily identified when several *in situ* ashlar remains could be documented and associated with possible tomb plan. In six occasions the tomb remains were almost completely covered by more recent stone clearings, possibly because the presence of a heavily built structure immediately below the surface made any agricultural attempt futile. It is likely that several more tombs remain completely hidden underneath the many clearings throughout the area. Also one specific plant within the area seems to prefer growing on top of stones; a more careful analysis of its diffusion throughout the area might reveal possible additional structures

[864] Köse 2005a, 115-133, 227-228: G4-G7.

(not only tombs). Because of their general location with their fronts facing downhill, it was mostly parts of the *in situ antae* or door posts that were visible at the surface, while also back walls, which were partially dug into the mountain slope, were in some cases still outcropping above the current walking level. Several tombs on the eastern ridge were partially rock-cut and the rock faces might be the best preserved parts of those structures (**Fig. 7.43**). This limited amount of data still made it possible to estimate the dimensions of more or less half (15) of the newly discovered tombs. The survey data suggest that the monumental tombs were generally between 3 and 6 m wide, with few exceptions. The depths were in general proportionally more (4 to 7.5 m), even though in a few cases the width of the tombs appeared to have been larger than or similar to their depth. There might be a chronological component in the evolution towards more elongated monuments, compare for example with the Hellenistic monument at site F.

One large temple-shaped structure, with a width of 8.5 m and an estimated depth of 10.5 m, was located in the centre of the Eastern Suburbium, northwest of tomb G7 (**Figs. 7.44**-**7.45**). The *antae* protruded 1.90 m from the main *cella*, with the threshold towards the *cella* also visible *in situ*. The structure could be a small temple, but the setting within the funerary-artisanal quarter seems to favour an identification as a temple tomb. It stood central in a very large *temenos* (*c.* 950 m²), which apparently had subdivisions and which contained a second large tomb (?) immediately adjoining to the east of the main, central tomb. Its identification as a religious or funerary compound is strengthened by the absence of any kilns inside the *temenos*, while eleven kilns have been identified in the immediate surroundings during the geophysical survey. The compound could be entered from the southeast, where it opened onto an east-west oriented road.

North of the Theatre an even larger structure could be identified, with a width of 11.7 m, a minimum depth of 9 m. The side walls are oriented west-southwest to east-northeast, perpendicular to the local topography; the back wall could not be located with certainty. This was most probably not a covered structure in itself, but rather the *peribolos* of a burial plot. The difference with the perimeter walls surrounding the *naiskos* tomb and probably the PQ 4 burial compound is that it appeared to have been completely open on the side facing downslope, towards the road. Geophysical research suggests that the adjoining (burial) plots were similarly open towards the main road coming in from the city centre. This type of 'open' burial plots are also attested elsewhere, as in the Larichos burial compound at Assos.[865] The geophysical survey could not provide enough detail to unveil any possible internal structures within the plot. It is certainly possible that the (burial) compound was occupied by less prominent burial types.

It is difficult to state more details concerning the possible layout of these monumental tombs. In Early Roman Imperial time, any man of means could erect a more or less monumental tomb in the *suburbia* of his city, an honour that was more reserved to a happy few in the preceding times. In 1st century AD Asia Minor this resulted in a wide variety of tomb shapes (*e.g. tholoi*, hexagons, octogons, *aediculae*, temple tombs, *etc.*) that furthermore differed from city to city. From the 2nd century AD onwards, the spectrum of tomb shapes dwindled down and the temple tomb would be the most common type of burial monuments, while the *aedicula* tomb described above (see § 7.4.4) appears to have remained a common type as well in the Eastern Suburbium.

[865] Berns 2003, 10-11.

Fig. 7.42. The presence of the occasional column base is an indication that columns must once must have been part of the layout of the monuments in the Eastern Suburbium. This column base was found *c.* 65 m north of the Theatre.

Fig. 7.43. Some ancient ashlars (door posts?) reused in a 'modern' corral. The original tomb might have been in the immediate vicinity, as is suggested by other ashlars lying about. The almost vertical rock face could have served as a tomb wall at some point.

Fig. 7.44. The southwest *anta* of a relatively large temple (tomb) located in the center of the Eastern Suburbium. The threshold leading towards the *cella* is also visible.

Fig. 7.45. Georeferenced aerial picture with indication of the location of the large temple (tomb) and adjoining structure (only known through geophysical survey).

7.4.7 Pit inhumations[866]

Pit inhumations at site F

On the main terrace in the upper trench at site F, five pit burials were documented in 2012 (see **Attachments 2** and **21**). All burials consisted of adults, who were buried in a fully extended position. Their stratigraphical position suggests that they were buried in relatively shallow graves, in contrast to the much deeper pit inhumations documented in the PQ 4 burial compound (see § 8.4.4). Inhumation L 58 was isolated from the other burials, *c.* 8.5 m to the east in the eastern half of the trench. The other four inhumations appear to have occupied an empty plot of land southwest of the vaulted family tomb (see § 6.4.3 and § 7.4.5).

- **Inhumation L 58** was encountered while excavating the remains of a large, *in situ* Hellenistic *pithos* immediately adjacent to the inhumation. The body was stretched east-west, with the feet facing east. Skull and legs of the deceased were fairly well preserved, while only ample remains could be collected from other parts of the body (50-75 % preservation). The individual was identified as a female aged

[866] The information in this paragraph is largely based on the site F 2012 internal excavation report by Johan Claeys and an unpublished physical anthropological study done by Katrien Van de Vijver.

between 25 and 35 at the time of death and the pathological study of the teeth revealed dental infection and caries. Finds of some hooked nails associated with the burial suggest the use of a wooden coffin, even though not enough nails were encountered to claim this with certainty. North of and immediately next to the head a small but complete ceramic flask was found (**Fig. 7.47**). The type of vessel spans a long time period (from Late Classical to Late Roman). The clay fabric of the flask suggested an early origin, but the radiocarbon dating of the remains resulted in a burial date between 240-400 cal AD (**Fig. 7.48**).

- **Inhumations L50** and **L52** (**Fig. 7.46**) were encountered side by side (an intermediate distance of *c.* 0.55 m), immediately south of and parallel with the enclosure wall associated with the vaulted family tomb. They were east-west oriented, with their feet pointing towards the east. The remains of individual L50 were relatively well preserved (completeness > 75 %) and could be identified as a male, aged between 30 and 40, who suffered from dental infection, caries, antemortem tooth loss, degenerative joint disease and trauma. The human remains of inhumation L52 were averagely preserved (between 50 and 75 %) and showed signs of degenerative joint disease and trauma. The age of the individual, of which the gender could not be determined, was between 25 and 40. Several nails were found at regular intervals around the bodies, suggesting that they were buried in wooden coffins. The radiocarbon dating of the remains from individual L52 provided a date between 80-250 cal AD. Because of the close association with burial L50 a similar can be suggested for the latter inhumation.
- **Inhumations L54** and **L56** were located 3.65 m south of inhumations L50/L52. They were positioned partially on top of each other, close to the retaining wall delineating the terrace, with inhumation L54 being the one on top. Their heads were superimposing, but the bodies were stretched in opposite directions. The remains of individual L54 were averagely preserved (between 50 and 75 %), but the gender and age (between 25 and 50) could not be determined with precision. The physical anthropology analysis leaned towards a male individual, but the find of a collar of blue glass beads adorning the neck makes it more likely that we are dealing here with a woman. The body showed signs of dental caries and antemortem tooth loss; *button osteoma* (bone overgrowth on the cranial vault as the result of a benign tumor) and trauma. The remains of individual L56 were equally preserved (between 50 and 75 %) and could be identified as belonging to a woman aged between 30 and 50 and suffering from dental caries, antemortem tooth loss and degenerative joint disease. A hairpin was found within the burial and a coin of Gordianus III (AD 238-244) was encountered when cleaning the skull cavity (**Fig. 7.48**). Ten identical coffin nails (with round heads) were encountered around the body of individual L54 and the few nails found in association with individual L56 also might suggest the use of a coffin.

The scarcity in burial gifts and lack of stratigraphical information made it appropriate to supplement the dating criteria with additional arguments derived from carbon dating. Samples were studied from three individuals (L52, L56 and L58) and provided overlapping results: 80-250 cal AD for both burials L52 and L56 and 240-400 cal AD for burial L58, all with a 95.4 % probability (**Fig. 7.48**). However, a coin found in the cranial vault of L56 (most likely a burial gift to pay the mythical Charon for the passage of the Styx) could be dated to AD 238-244. This pushes the possible burial date of burial L56 to the absolute limit of the date retrieved from carbon dating. This also means that the superimposing individual L54 was most likely buried after the first half of the 3rd century AD. The fact that burial L54 does not cut the remains of L56 can be explained as resulting from the apparent knowledge of the presence of the older burial, suggesting a possible relation between both entombments and burial dates relatively shortly apart (within one or two generations). However, their awkward position in relation to one another can likewise be understood as the lack of knowledge of the presence of an earlier burial, suggesting that no grave marker was preserved and that burial L56 was thus undeterminably older than L54. The proximity of parallel burials L50 and L52 might be an indication for a possible relationship between both entombments as well. The similarities in burial characteristics – similar orientation, shallow graves, within same burial plot, use of wooden coffins, scarcity of burial gifts – seem to warrant relatively close dates for all five burials, with the 3rd and 4th century AD as most likely period for their entombments.

The consequent east-west orientation of the five burials and the scarcity of burial gifts should not necessarily be understood as signs for a Christian influence. The orientation of the terrace would favour east-west oriented burials and the lack of burial gifts might result from the destitute status of the deceased. The fact that one of the burials was oriented with the head towards the east (L56) and the occasional observation of burial gifts (a 'Charon coin' with burial L56, the flask with burial L58, *etc.*) are indications of pagan traditions. The average age of the deceased is not significantly different from other (contemporary) burials within the Eastern Suburbium (see also § 8.4.4). The absence of children and neonates might be meaningful, but might also be due to the limitations of the sample (the burial plot extends both in eastern and western directions) or even to a lower probability for the remains to be preserved.

Fig. 7.46. View from the north on inhumations L50 (lower) and L52 (upper).

Fig. 7.47. Content of burial L58.

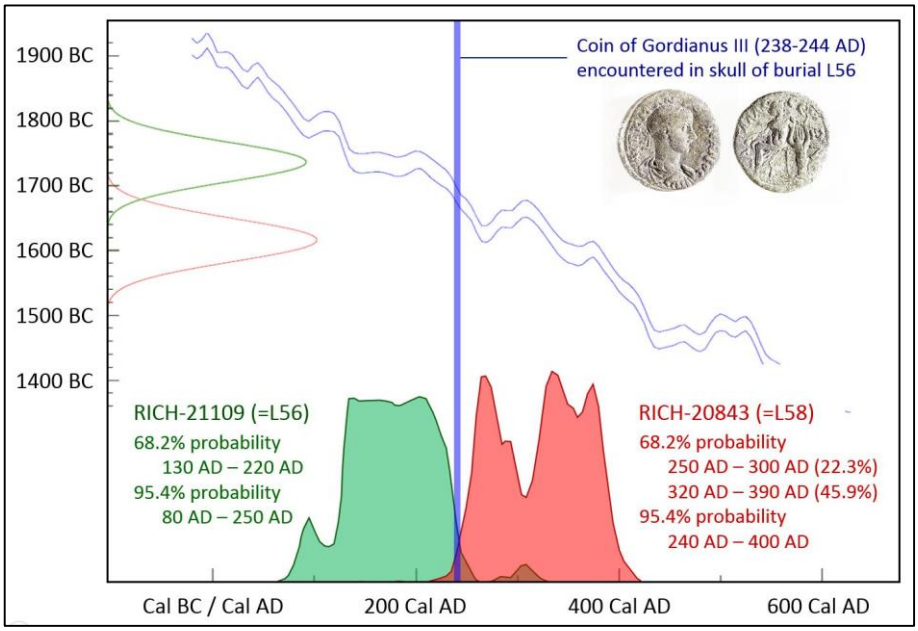


Fig. 7.48. Chart representing the calibrated C_{14}-dating of two individual pit inhumations at site F (L56 and L58). The coin encountered within the cranial void of burial L56 (sample RICH-21109), provides a clear *terminus post quem* for the entombment of this individual. Even though the results of both calibrations appear to barely overlap, it cannot be excluded that they are contemporary.

Pit inhumations within burial compound PQ 4

Inhumations in simple pit burials were also attested inside the large burial compound PQ 4. While the earliest two burials were buried in constructed tombs (1 and 6), the other attested burials were dug in irregular rows within the compound. After the initial burials were entombed at site PQ 4 (tombs 1, 2 and 6), it seems that more than a century passed without burials (even though it needs to be remembered that less than half of the burial compound has been excavated). The next attested burials (tombs 5, 8 and 15) were dated to the last quarter of the 3rd century AD and the large majority of tombs were dated to the 4th century AD. Therefore we will discuss this apparently continuous second period of burials in its entirety in the next chapter (see § 8.4.4).

7.4.8 Sarcophagi

The shift from cremation to inhumation as the predominant burial tradition, was clearly illustrated by the emergence of 'new' fashion: *sarcophagi* came to replace *osteothekoi*. Veli Köse, in his encompassing study of the *necropoleis* of Sagalassos, documented all of the visible funerary remains of which *sarcophagi* (206 in total) took up the lion's share.[867] *Sarcophagi* were not alien to Asia Minor and in fact went back to a Classical-Hellenistic tradition, but the peak of its use clearly lay in Roman Imperial times. Echoing developments in Ephesos, Dokimeion, Aphrodisias and Prokonnesos, the local Sagalassian elite probably also understood the value of the production of *sarcophagi* for the local stone quarries.[868] Important in this aspect is the fact that most of the Sagalassos limestones and breccias are intensely crystallised, which makes their properties close to those of marble and allows rather detailed carving.[869] As discussed above (§ 7.3.2), the monumental building projects came to an almost complete stop by the end of the 2nd century AD. *Sarcophagus*-carving in the first half of the 3rd century AD would most probably have been the largest claimant for local stone; after all, most of the more monumental funerary architecture appears to have been made of rubble stones, with cut stone only being used for decorative (*e.g.* columns, architraves, *etc*.) or strategic structural elements (*e.g.* lintels, corners, *etc*.).

Each *sarcophagus* indeed required *c.* 1.5 m³ of nett stone, which could have represented up to a fivefold in rough quarry stone material, considering the fact that *sarcophagus* carving implied the use of high quality limestone which would result in large amounts of waste. Regarding the fact that in the next decades hundreds of *sarcophagi*[870] would be carved from local Sagalassos limestone, this meant that *sarcophagus*-carving was no small business. An important question lies in determining whether *sarcophagus* production was based on a system of 'made to order' or whether it represented short-term intensive production that was predefined. The lack of evidence for failed attempts seems to suggest the former interpretation. The quarry extractions themselves indeed point towards the sporadical, but highly professional exploitment of the resources.[871] *Sarcophagi*-carvers typically employed the stone from the quarries, in many cases small-scale extraction sites, nearest to the place where the *sarcophagus* would ultimately be placed.[872] *Sarcophagus* carving would continue as the most popular burial practice for people of means in the second half of the 2nd century AD and during the subsequent Severan period.[873]

The majority of *sarcophagi* in the Eastern Necropolis were free-standing monuments, but just as other monumental tombs they were in many cases surrounded by a burial plot, defined either by a natural rock face, an existing (terrace) wall, or a newly constructed *temenos* wall. Contrary to many other ancient sites, most of

[867] Köse 2005a.
[868] Köse 2005a, 107-109.
[869] Degryse 2007, 31; Köse 2005a, 107.
[870] Veli Köse documented 264 *sarcophagi* for all the *necropoleis* of Sagalassos, the vast majority being carved from local limestones (Köse 2005a, 186-226). Most *sarcophagi* were positioned on rocky slopes, where they were little influenced by erosion and which makes that most of them are still (partially) visible at the current walking surface. Nevertheless, as was attested in the site F excavations, also the northern terraces of the Eastern Suburbium contained *sarcophagi*, which are now for the most part buried underneath thick layers of screes. It is possible that most of the *sarcophagi* of Sagalassos are known, but their original numbers must have been well above 300.
[871] Degryse 2007, 19-20.
[872] Degryse 2007, 54.
[873] Köse 2005a, 108.

the *sarcophagi* are not aligned along one of the major access roads into the city, but are confined to face secondary roads, in many cases no more than footpaths[874]. The majority of the known *sarcophagi* in the Eastern Necropolis, however, are located on the rocky slopes south of the Eastern Suburbium, while also the northern terraces might accommodate several more *sarcophagi* buried under thick layers of scree (as is suggested by the remains of a *sarcophagus* at site F and by the presence of several more *sarcophagi* in the Northern Necropolis west of the Eastern Suburbium). *Sarcophagi* situated away from the main *necropoleis* are either aligning major streets or are situated on private land (suburban *villae*)[875]. In the case of the Eastern Suburbium and its surroundings, this includes two *sarcophagi* found in the immediate vicinity of the Gökpınar *villa*[876] as well as an undecorated (?) *sarcophagus* carved into a huge boulder along the road down to the Ağlasun valley (**Fig. 7.50 a**).

Veli Köse described 51 *sarcophagi* as part of the Eastern Necropolis (which overlaps with the Eastern Suburbium and the slopes to its south), of which 16 did not yield fragments of both the lid as well as the coffin.[877] Most of the decorated *sarcophagi* belong to general types: garland *sarcophagi*, *sarcophagi* with *tabula ansata*, *sarcophagi* with Lycian motif, Torre-Nova *sarcophagi* and column *sarcophagi*, apparently following the developments driven by the large *sarcophagus* centres of Anatolia. Apart from these main types, there are *sarcophagi* without decoration (a.o. the *chamosoria*, *i.e.* rock-cut case-shaped coffins), with local motifs (*e.g.* bust *sarcophagi* and *sarcophagi* with weaponry motifs) and some with more independent motifs, in which we probably should recognize the personal wishes of the customer. Specifically for the Eastern Suburbium, column *sarcophagi* appear to be completely absent, while the type with *tabula ansata* is the most common (8). Other *necropoleis* show different preferences, with sometimes clear concentrations of specific types within specific areas. This might suggest the working of specialised stone carving ateliers that provided for (or owned?) specific tracts of suburban land. The most remarkable observation, however, is that more than half of the (complete) *sarcophagi* within the Eastern Suburbium are either undecorated (7) or could not be determined. This leaves a lot of maneuverability for alternative (read: earlier) dates for these undated *sarcophagi*.

Indeed, the lack of decorative motifs on the several *chamosoria* of Sagalassos, as well as other non-decorated *sarcophagi*, makes them difficult to date when there are no other datable elements available.[878] Köse proposes to date them in the 2nd-3rd century AD, since most *sarcophagi* in Sagalassos belong to that time frame and since it concurs with other sites in Asia Minor.[879] In Ch. 5, however, we have seen that *chamosoria* on comparable sites are dated as early as (Early) Hellenistic times (see § 5.4.4). Moreover, also in the case of the undecorated *sarcophagus* encountered during the excavations at site F, a Hellenistic date was proposed for its original installment. Even though all decorated *sarcophagi* in Veli Köse's comprehensive catalogue could be dated to Imperial times, an earlier date for some of them would not contradict with the long-standing tradition of *sarcophagi* encountered throughout Southwest Anatolia. The earliest type of *sarcophagus* that can be dated based on decorative factors is the garland *sarcophagus*, which would have made its appearance in Imperial Sagalassos, possibly as early as the first half of the 1st century AD. Different decoration schemes within this group of *sarcophagi* can be assigned to imitate examples from the above-mentioned major marble quarries, with garland *sarcophagi* in the Eastern Necropolis mainly follow the traditions of Dokimeion and Ephesos. The *sarcophagi* with *tabula ansata* and adjacent Medusa-rondels would become the most widespread type of *sarcophagi* in Sagalassos and probably represents a type characteristic for Pisidia, based on older *osteothekos* decorative motifs.[880]

[874] Köse 2005a, 20-21, 107-109.
[875] Köse 2005a, 107.
[876] These are numbered as S. 257 and S. 258 in Veli Köse's catalogue, where they are described as being located *c.* 2 km east of the Eastern Necropolis (Köse 2005a, 224). However, their location is more accurately *c.* 750 m southeast from the heart of the Eastern Necropolis, as the crow flies.
[877] These are numbered from S. 154 till S. 204 (Köse 2005a, 209-216).
[878] Köse 2005a, 100-101.
[879] *Chamosoria* are mainly attested in Lycia, Caria, Lacaonia-Isauria, Phrygia, Cilicia and Pisidia (Köse 2005a, 101). In Pisidia, examples are known from Panemoteichos (Aydal *et al.* 1997, 159, Plate XXII) and Termessos (Çelgin 1990, *non vidi*).
[880] Köse 2005a, 20-21, 107-109.

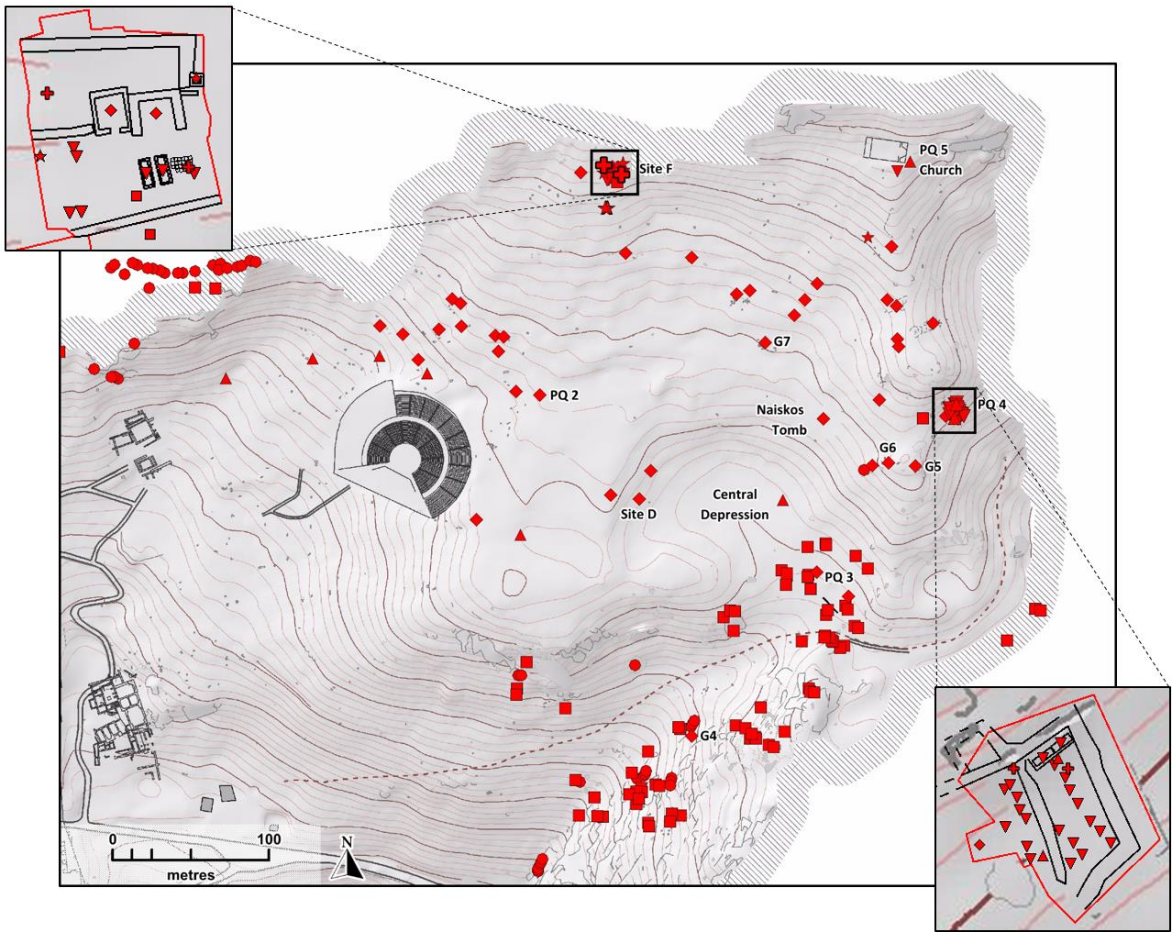


Fig. 7.49. Overview of the known or guesstimated burials and burial monuments in the Eastern Necropolis: pottery urns (stars), *osteothekoi* (triangles pointing up), cremation *busta* (crosses), individual inhumations (triangles pointing down), *arcosolia* (circles), *sarcophagi* (squares) and burial monuments or burial compounds (diamonds). Notice how distinguishable zones appear within the Eastern Necropolis, with the larger burial monuments occupying the central parts and the eastern ridge, *osteothekoi* around the centre and *arcosolia* and *sarcophagi* on the northern and southern slopes.

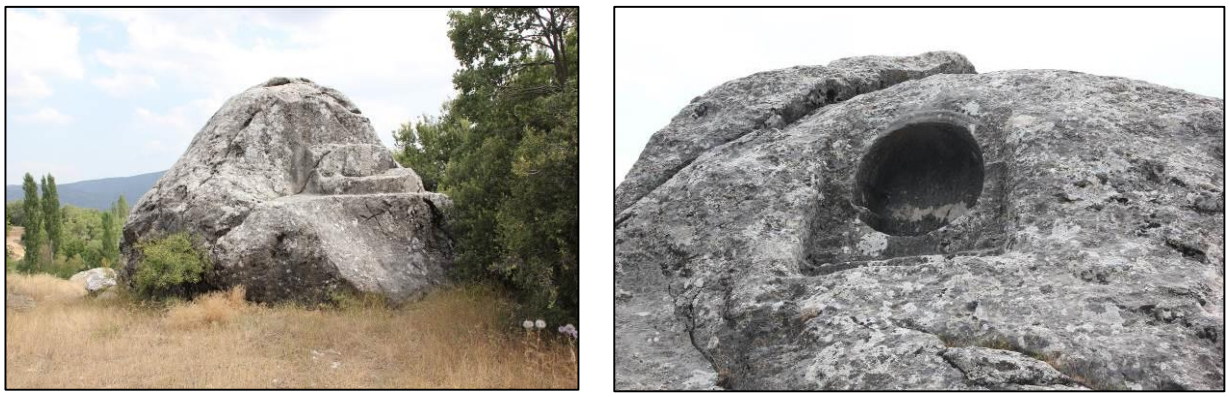


Fig. 7.50 a/b. Along the road down into the Ağlasun valley, in a field along the Kirazlı Dere, a *chamosorion* (a) and *arcosolium* (b) are carved into a large boulder close to the road.

One *sarcophagus* carries the following inscription[881]:

“Αὐρ.[5-6]ρος	“Aur(elius)[ ]ros
Ἐπώ[νυ]μος	Eponymos,
Ῥώδωμος	son of Rhodon (?),
Ἀντιόχου	grandson of Antiochos,
Φιλεταίρου	great-grandson of Philetairos,
ζῶν ἑαυτῷ	during his life
τὸ ἀνγεῖον	had this sarcophagus
ἐποίησε.”	made for himself.”

The clearness and type of the inscribed letters suggests that the grave owner acquired Roman citizenship during the reign of Marcus Aurelius. Apparently his father and grandfather did not possess the Roman citizenship. Few other inscriptions are known from all *necropoleis* of Sagalassos, some of which carry Roman names, which allowed for the identification of three brothers from a family of Aurelii, two of whom were engaged in theatre.

7.4.9 Arcosolia

Most of the *arcosolia* at Sagalassos are of the type with a front panel and a rock-cut niche and arched canopy (**Fig. 7.51**). These strongly remind the older iconography used in arched funeral *stelae*, in which the deceased is depicted in an *aedicula* setting (**Fig. 7.52**) and which are dated to Hellenistic and Early Roman Imperial times. However, even though this type of *stelae* was not uncommon in Asia Minor, no examples have (yet) been encountered in the territory of Sagalassos or in Pisidia in general. Funerary decoration during those time periods in Sagalassos was dominated by the rectangular *osteothekos*. An alternative or complementary hypothesis is that the *arcosolia* combined elements from these rectangular *osteothekoi* with the from the 2nd century AD emerging custom of displaying statues in niches in tabernacle buildings.[882] There is a long tradition of rock-cut tombs in Asia Minor, but *arcosolia* can be considered as a well defined group – in time as well as in space – within this tradition. *Arcosolia* made their appearance only in the second half of the 2nd century AD and were mainly confined to the mountainous areas in the southwest of Anatolia (especially Pisidia, Cilicia, Isauria and Lycia) where steep rocky outcrops were plentiful and where space for the sprawling *necropoleis* around the mountain sites was limited. Even then, *arcosolia* appear only in certain cities, with Sagalassos being the only Pisidian city containing a large number of this type of tombs.[883] Veli Köse documented 22 *arcosolia* within the Eastern Necropolis[884], with 21 of them located on the steep, rocky slopes south of the Eastern Suburbium and one rather elaborate *arcosolium* located southeast of the *naiskos* tomb (**Fig. 7.51**). It needs to be remarked here that the division between the Eastern and Northern Necro*poleis* is rather artificial, since the assumed spatial lacuna between the most eastern tombs in the Northern Necropolis and the northernmost tombs of the Eastern Necropolis would most likely be eradicated if more excavations would take place on the northern terraces of the Eastern Suburbium (**Fig. 7.49**). In some cases these rock faces are what remains of an ancient quarry. This means that *arcosolia* take up spaces that were never optional for other types of burial monuments or other activities associated with the *suburbia*.

Just like the *sarcophagi*, the *arcosolia* also appear in different decorative schemes, most commonly depicting wreaths with palm branches and garlands. The partition between decoration patterns might be explained by their use by different social groups (*e.g.* citizens, freedmen or slaves) or by the specialization of individual stone

[881] Köse 2005a, 106. This inscription is as yet unpublished; the original transcription and translation were done by Veli Köse and have been corrected by Katelijn Vandorpe (professor Ancient History at the University of Leuven).

[882] Examples of monumental tabernacle structures in Sagalassos are a.o. the Neon Library, the ‘statue gallery’ in the large Frigidarium 1 of the Imperial Baths, the Trajan and Severan Nymphaea at the Lower Agora, the Antonine Nymphaeum at the Upper Agora, the Theatre, *etc.*

[883] Yılmaz 2007; Köse 2005a, 145-146.

[884] Köse 2005a, 239-241.

carving workshops. *Arcosolia* were (mainly[885]) used for cremation depositions, but their period of use overlaps to a large extent with the heydays of *sarcophagi* and monumental tombs, which are generally linked with inhumation burials. It has been suggested that the coexistence of seemingly opposite burial customs should be explained as different traditions living within the Sagalassos population[886], with the people choosing for cremation representing the more conservative tenor. The explanation might not be fully satisfactory, especially since the emphasis on the alleged contrasts between cremation and inhumation might be overestimated. Indeed, the burial method might be a mere ancillary aspect in the whole funerary ritual sequence. The observation that *sarcophagi* and *arcosolia* in many cases share the same areas, *e.g.* the slopes south of the Eastern Suburbium, seems to point in the same direction. On the other hand, the differences not only lie in the burial method; there are obvious differences between the physical form of the final resting place, with *arcosolia* possibly deriving their form from the local *osteothekoi*, while the *sarcophagi* might be regarded as a new, or at least revived, concept (taking in consideration the fact that *sarcophagi* had been around for centuries in Pisidia and possibly also in Sagalassos). In this regard it can be meaningful to note that, based on the study of the inscriptions, Roman names are more commonly used in *sarcophagi* than in *arcosolia*. In the case of the Eastern Necropolis – and specifically for the slopes south of the Eastern Suburbium, where *sarcophagi* and *arcosolia* coexist side by side – there are no inscriptions preserved to make epigraphical comparisons. In any case it can be concluded that the location of *arcosolia*, whether or not they represent a significantly different burial tradition, is above else defined by topographical criteria.

Fig. 7.51 (above). The only (visible) *arcosolium* in the Eastern Suburbium proper, southeast of the *naiskos* tomb, is also one of the most extensive examples. Apart from the tomb chamber, there is also a rock-cut 'seat' and 'floor'.

Fig. 7.52 (right). An arched funeral *stela*, believed to be from Western Asia Minor and dated to the Late Hellenistic period or 1st century BC. Now on display in the University of Penssylvania Museum of Archaeology and Anthropology From White *et al.* 1995, 34.

[885] The practice of carving *arcosolia*-shaped burial niches in the walls of tomb chambers and *columbaria* is also attested in Roman Italy, where they were used both for cremations as well as for inhumations (Toynbee 1971, 134-138). The small sizes of the *arcosolia* at Sagalassos, however, would only allow for the possible inhumation of small infants. Indeed, also in the Italian examples it is generally possible to distinguish between the small cremation niches (called '*aediculae*' or 'semi-circular niches' by Jocelyn Toynbee) and the larger *arcosolia* for inhumations below (Toynbee 1971, 135). An alternative use might have been as a charnel for the reinterment of bones from an older inhumation burial, but it is more likely that the *arcosolia* at Sagalassos were exclusively used for the deposition of cremation remains.

[886] Köse 2005a, 147.

7.4.10 Discussions

Longevity of the tombs

All three monumental tombs mentioned above − the *naiskos* tomb at the PQ 1 trench and the family tombs at site D and site F[887] (see § 7.4.2 and § 7.4.5) − contained human remains and associated finds that were younger by centuries than the proposed construction date for each of the tombs. While all three tombs were most probably constructed in the 2nd century AD, the remains found inside dated respectively to the 4th century AD (family tombs at site D and site F) or the late 4th-early 5th century AD (*naiskos* tomb). The content of the tombs will therefore be described in the corresponding paragraphs § 8.4.1 (sites D and F) and § 8.4.3 (*naiskos* tomb). This general observation, however, raises questions concerning the legacy of the tombs and the relationship between the original sponsors and the final users. Only carbon dating can establish whether some of the heavily disturbed human remains encountered inside the tombs date to the original occupation phase. Evidence in the find assemblage seems to suggest otherwise, implying that the original skeletal remains were removed (and reburied elsewhere?). This would probably not be a generic practice associated with the next of kin, even over the centuries. Older remains of family members would generally be pushed aside or collected into a charnel, as was the case in the western individual tomb at site F (see § 8.4.2) where the bones of the previous deceased individual were pushed to the eastern edge of the tomb; only the cranium would apparently deliberately be put on top of the pelvis of the new entombed individual. Reusing tombs as well as the practice of reinterment in ossuaries or charnels is linked with overcrowding of the available burial space at a certain *necropolis* and has been attested throughout Hellenistic-Roman times. This might certainly have been the case for the Eastern Suburbium of Sagalassos, where the competition for space between funerary, communal and artisanal activities would only have grown untenable throughout the centuries as burials would take up more and more space (see further). From the study of the main road leading into the Eastern Suburbium from the southeast (see § 6.2.1), it appears that it was not an option (for safety? for tradition? for practical reasons?) to extend the *necropolis* beyond the eastern ridge. The absence of the expected older human remains in the monumental tombs of Sagalassos shows that usurping an abandoned and/or derelict ancient tomb was not an insurmountable issue. On the contrary, judging by the observations made in the Eastern Suburbium excavations, it appears to have been a widely applied and accepted custom. This by no means implies that desecrating tombs was accepted as well. From the inscriptions documented in the *necropoleis* of Sagalassos, it can be understood that tomb robbery was considered a grave offence, punishable by law.[888] Nevertheless, the mere fact that this was regularly mentioned in inscriptions shows that it was not an uncommon occurrence. Especially from the 5th century AD onwards, when the Eastern Suburbium is still in employment, we notice that monumental tombs are not only usurped by apparently new claimants, but that they were dismantled in order to recover *spolia* as well, just like many other buildings in the area. It is unlikely that this large-scale and wide-open demolishment went hand in hand with organized robbery of the tombs, but it would certainly have facilitated tomb raiding.

Competition for space

It may be clear that the rather sudden exclusive preference for inhumation burials throughout the Roman Empire had repercussions on the availability of space outside the city walls. The inhumation of a fully stretched body, which became a common burial rite in the 2nd century AD, obviously took up more space than the deposition of a terracotta cremation urn, stone *osteothekos* or the carving of an *arcosolium* niche in an otherwise idle rock face. This change, moreover, was accompanied by a preference for monumentality in the funerary markers. Monumental tombs were of course a millennia-long tradition, but never before would such a large part of the population resort to some form of monumentality, be it a simple limestone *sarcophagus* or a more impressive tomb within a large burial plot.[889] One of the instigations of this phenomenon certainly was the long period of

[887] The *naiskos* tomb at PQ 1 can of course also be a family tomb; this is even highly probable. But while the other one-chamber tombs at site D and site F have many corresponding properties, the *naiskos* can primarily be distinguished by its architectural characteristics, *i.e.* a *naiskos* type tomb.

[888] Köse 2005a.

[889] Von Hesberg 1987, 42-43; Von Hesberg 1992, 13-18; Köse 2005a, 111-112.

relative peace and prosperity throughout the Empire. Moreover, many people without excessive means would ensure the proper execution of their funerary arrangements through their membership in a burial clubs and/or through the system of patronage.

Monumentality was not only outspoken in the grandeur of the tomb, but also in its visibility and accessibility. This meant that tomb contractors would strive for the possession of plots of land located either along the (major) access roads or on other prominent locations. The *necropoleis* of Sagalassos offered several options for a conspicuous final resting place: 1) tombs could either be located immediately along the major access routes, *e.g.* the PQ 4 burial compound (see § 6.4.2 and § 8.4.4) or the so-called '*Gräberstrasse*' (see § 7.4.3); 2) tombs could be constructed on slopes overlooking the major roads, *e.g.* the slopes encircling the Central Depression (see § 7.4.2 and § 7.4.5), the slopes north of the Theatre (see § 7.4.6) or the hillsides south of the Eastern Suburbium riddled with *sarcophagi* (see § 7.4.8) and *arcosolia* (see § 7.4.9); and 3) tombs could take up positions on vantage points overlooking the surroundings, *e.g.* tombs G5 and G6 on the eastern ridge (see § 7.4.4), but also the Hellenistic burial monument at site F (see § 5.4.4).[890] All these factors did not only create a competition for space among the tomb builders, but also with other stakeholders, *e.g.* artisans, located at the outskirts of the cities and towns. It is obvious that workshop operators would not profit from a location on a difficult to access vantage point or steep, rocky slope; local geography is probably the main factor in the formation of certain concentrations of activities. However, if geography was the only factor, one would expect an even more strict division between artisanal, communal and funerary presence in the Eastern Suburbium. But through the construction of new roads and terraces the ancient inhabitants actively changed the geographical ground rules, further tightening the competition.

Garden tombs

It was not uncommon for the 'sacred' *temenoi* to be used as gardens, on the one hand for the economic profits that the surviving relatives could enjoy (for example as in incentive to maintain the burial plot), but also for the pleasant atmosphere it could offer to commemorating relatives as well as casual passers-by and weary travellers.[891] The garden culture within cities is more associated with Imperial Rome than with ancient Athens. The intention in the city of Rome was to blur the distinction between countryside − with its associated virtues − and city. This was accomplished through the emergence of a growing number of private garden *villae* but also through the creation of public parks, the first of which was established under Pompey the Great. In Pompeii the public and private green space took up nearly as much space as all streets and squares combined (*c.* 17 % of the city land).[892] This Roman garden culture extended to the *necropoleis* as well, as can be understood from descriptions by Roman authors, from various tomb inscriptions praising their surrounding gardens and from a few survived tomb plans on marble plaques.[893] The city of Athens, on the other hand, was "[c]*losely clustered along narrow labyrinthine roads*" while the "*Athenian houses presented a blank, fortress-like facade to the outside world.*"[894] But the Greeks were certainly not indifferent to the pleasant properties of the countryside, which they tried to develop as close to the city as possible, *i.e.* in their burial plots in the *proasteion*. According to Nicholas Purcell, the elite funerary ideology of the Hellenistic suburbs even lay at the basis for the later arrangements witnessed in the Roman *necropoleis*.[895] In any case the culture of funerary gardens had found its way in both the Roman and Greek Worlds. In the words of Nadine Brundrett: "*Today, when we visit an ancient* necropolis *we need to reconstruct a different picture in our minds than the one frequently presented to us.* [...]

[890] See also Köse 2005a, 116.

[891] Purcell 1987a, 29-30; Campbell 2008; Brundrett 2011. However, the public nature of burial plots is put into perspective by Nadine Brundrett, who stresses that the plots were primarily private and exclusive to the deceased's family (Brundrett 2011, 63). This is an aspect we might actually witness at site F, where the low wall surrounding the *temenos* does not seem to have an entrance, and at the *naiskos* tomb of PQ 1, where the access to both the *temenos* as well as to the tomb's *pronaos* seem to have been intentionally hampered by not providing any steps.

[892] Giesecke 2007, 102; Campbell 2008, 32-33.

[893] Campbell 2008, 35-37; Brundrett 2011, 53-54.

[894] Giesecke 2007, xii.

[895] Purcell 1987, 28-29.

We must recreate a landscape which was filled with exuberant plantings of flowers, fruit trees, vines, with their accompanying buildings all emblematic of the ideal Roman locus amoenus ['pleasant place']."[896]

Gardens were also associated with the pleasure of outside wining and dining, a popular theme in ancient iconography. Both practices would congregate in the many festivals for the dead, which included mainly activities that took place at the tombs.[897] There are clear indications at site F that ritual meals were consumed near the tombs. Several concentrations of dining remains, among which intentionally broken and burnt tablewares, were encountered within pits dug in the immediate surroundings of the vaulted family tomb. Whether this was done within the pleasant surroundings of a garden is more difficult to deduce from the excavations. The vaulted tomb at site F appears to have been almost completely subterranean and was most probably even intentionally covered by vegetation. This tomb was clearly not conceived to draw attention, but to blend in with the surroundings. In this particular case it is not difficult to imagine that the area around the vaulted family tomb at site F was indeed conceived as a garden. The only very partially excavated remains of the *temenos* around the *naiskos* tomb at site PQ 1 did not give any further insight into the purposes this specific burial plot was used for. If dining would indeed have taken place within the *temenos*, it would most probably take place within the more spacious, but unexcavated, eastern half. Funerary gardens might especially have been associated with *sarcophagi* enclosed by *temenoi*, but no such precincts have been excavated in Sagalassos.

[896] Brundrett 2011, 63.
[897] Campbell 2008, 41-42.

7.5 Communal presence

7.5.1 Architectural adaptations to the original *schola* building at site PQ 2[898]

In a second building phase, most probably still during the later 1st century AD, the original south wall of the *schola* was dismantled to its foundations level and both the eastern and western wall of the building were extended towards the south (**Figs. 7.53**-**7.54**). These extensions were erected applying the same construction techniques as the original walls, using a mix of mortared limestone rubble and (reused) ashlars and continuing the same widths. The extent of these prolongations could not yet be established. The building appears to continue south of the current excavation trench's limits, at least 4 m beyond the original south wall, but also the geophysical survey did not pick up any clear signals which could shed light on the dimensions of this possible 'annex' room.[899] In the southwestern corner of the currently exposed part of the western wall's extension a similar ashlar-brick arrangement could be noted as applied in both doorposts of the northern entrance (**Fig. 7.55**). Since similar arrangements are not used anywhere else in the building, a new (side) entrance might have been created in the western wall's extension. The similarities in building style and techniques may be an indication that this building phase followed shortly after the original construction phase.

Fig. 7.53 a/b. Highlighting the subdivision of the PQ 2 *schola* into several smaller spaces (see also Fig. 7.54). Rooms 1-3 were similar in size (room 2 was only later subdivided into two halves) and took up the northern half of the building. The southern half of the *schola* was taken up by one larger room (space 4).

A new southern wall was eventually constructed in between tern and western '*antae*' (**Figs. 7.54-7.56**), most probably during the early 2nd century AD. This would eventually settle the southwards extension of the building to 2.8 m (measured from the presumed original inner/outer façade to the new inner/outer façade); the total length of the building now amounting to 15.2 m (outer dimensions). The wall has been dismantled to threshold level; none of the standing parts of the door are preserved, but the pivot holes suggest a double door with a

[898] Most of the description of this building is based on internal excavation reports, *i.c.* by Johan Claeys (2011 and 2014), by Sven Van Haelst *et al.* (2012) and by Peter Talloen & Bas Beaujean (2013). More concise versions of the 2011 and 2012 reports have appeared in the *Kazı Sonuçları Toplantısı* series (2012, 141; 2013, 249-250). The 2013 and 2014 campaign will appear in the same series.

[899] Through a series of soundings planned for the 2015 campaign we hope to gain more insight into this 'annex' to the main space.

width of 1.55 m (**Fig. 7.57**). In contrast to earlier building phases, no mortar was used to erect this wall consisting of limestone rubble and reused ashlars. There are no indications that the northern entrance was closed off by this time, so the two opposite entrances must have functioned simultaneously. It should be noted that the construction of the new southern wall did not imply that the building's southwards extension was literally cut short at some point; as mentioned above, it is more probable that there was an unexcavated antechamber or *narthex* south of this wall. The observation that no mortar was used in the construction of this wall is an additional indication that this wall was not intended to function as an outside wall.

Fig. 7.54 a/b. The PQ 2 *schola* in its original middle 1st century AD layout ('phase 1' on the left) and after a thorough restructuring of the building in the late 1st and/or early 2nd century AD ('phase 4 bis' on the right). While the original building phase consisted of a single-entry rectangular hall dominated by a fountain basin, the later phase is characterised by a southward extension with its own new entrance, a subdivision of the northern half into three smaller rooms and the abandonment of the central water feature. There must have been a (short) intermediate phase in which the fountain basin was still in use in the extended building, since the currently visible runoff channel was constructed after the south wall was dismantled.

The southern extension of the building also coincided with the construction of a new outlet channel (**Fig. 7.58**) to evacuate the water from the fountain basin. Apparently the water infrastructure within the building must still have been in use when the new south wall was constructed, even though only for a relatively short span of time (see further). The original outlet was probably dismantled together with the original southern wall. The 18-23 cm wide bedding of the channel is constructed of large tiles, while the *c.* 20 cm high standing walls consist of mortared small limestone and brick rubble, plastered on the inside. The channel is rather remarkable in size, indicating that the whole water infrastructure inside the building was prepared for a high flow rate. Probably, the channel was originally covered by stone or brick slabs, the level of which would have coincided with the walking level associated with the new southern entrance. Neither the slabs covering the channel nor the contemporary floor itself are preserved (see § 7.5.3).

Fig. 7.55. View from the east on the southwestern corner of the PQ 2 *schola*. The red arrow indicates the continuous joint through the west wall of the building, with the original part of the building to the north and the southern extension to the south. In the corner the use of brick is clearly visible, as well as the lack of interlocking with the new south wall.

Fig. 7.56. View from the east on the southeastern corner of the PQ 2 *schola*, as documented in 2012. The red line indicates the continuous joint through the west wall of the building, with the original part of the building to the north and the southern extension to the south. The dashed red lines indicate the outlines of the original south wall of the *schola*.

In the southeastern corner of the building a mortar preparation area was preserved below floor level, similar to a preparation area uncovered within the *temenos* of the *naiskos* tomb. Since no mortar was used in the construction of the new southern wall, this preparation area should more probably be associated with the extension of the eastern and western wall towards the south. The finds encountered within the abandoned preparation area, postdating the construction event, date to the late 1st and early 2nd century AD.

The introduction of a new southern wall with its own entrance considerably changed the design and functioning of the building. Originally the fountain basin occupied the centre part of the south wall, immediately in the line of view from the northern entrance. This specific spot would draw the attention of any visitor entering the building, which is why it was in most cases reserved for a podium or an apsis containing the statue of the patron

deity.[900] Now located more centrally in the room, the fountain basin, apparently still in use, appears to have lost some of this 'privileged unattainability'.

The layout of a *Saalbau* with two separate main entrances in opposite walls is rather unique (and thus unlikely), which is why it cannot be excluded that the subdivision of the northern half of the building into smaller rooms took place around the same time as the construction of the new southern wall. This would have split the building into two more or less independent halves, with a large open southern half, and three smaller, rectangular rooms in the northern half (**Figs. 7.53**-**7.54 b**). However, the construction of these dividing inner walls also cut off the water supply to the fountain basin, as the walls' foundations are dug through the terracotta pipes coming in from the north. The fill inside the water outlet channel contained 2nd century AD material, which might have entered only after its covering slabs (and the floor level) were dismantled. It is also likely that the dismantling of the upper part of the fountain basin should be linked with these other changes in the building. The remaining substructure probably still protruded above the then floor level and could have served as a podium or bench. This might explain why some of the upper surfaces of the substructure's ashlars appear severely abraded and why several complete small ceramic cups were encountered inside and around the structure (**Fig. 7.59**). These cups were of the same type as the ones found throughout the communal dining dumps dated to the 2nd or early 3rd century AD located within and east of the building (see § 7.5.2).

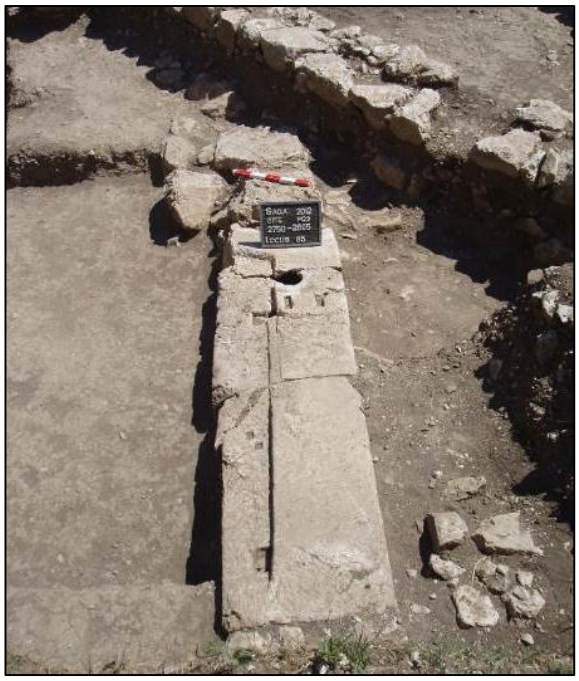


Fig. 7.57. View from the west on the threshold of the monumental entrance in the new southern wall of the building, as documented in 2012.

Fig. 7.58. View on the water channel evacuating the runoff water from the fountain basin, sloping down and leading through the (later) south wall of the building.

[900] Bollmann 1998, 103.

Fig. 7.59. The remaining substructure of the fountain basin, after the upper, visible parts of the structure were dismantled. Traces of wear at the top of some of the ashlars might be an indication that the structure was still partially exposed during the next phase of use.

Through the construction of three inner walls the northern half of the building was subdivided in three rooms with more or less equal inner dimensions: a northwestern room with a surface of 18.5 m² (room 2), a northeastern room with a surface of 15.5 m² (room 1) and an eastern room with a surface of 18.9 m² (room 3). Room 1 could only be entered through the old northern entrance of the building; the two other rooms had to be approached from the southern entrance and the southern half of the building. The wall dividing the building in two halves was later dismantled to its foundation levels; the 1.20 m wide door opening towards room 3 can still be recognised, while probably a similar opening towards room 2 is implied. All these walls were carefully executed in mortared limestone rubble (occasionally mixed with brick fragments). The north-south wall as well as the dismantled wall might have been interlocking, but the wall dividing room 1 from room 3 was clearly abutting the north-south wall.

This intensive phase of extending, adapting and renovating the building appears to have taken place over a relatively short span of time in the late 1st and/or early 2nd century AD. Careful observation of the archaeological data suggests several stages (phases 2 till 4bis, mentioned below), which might be too closely related in time to detect in the ceramic and/or stratigraphical record, but which for practical reasons cannot have taken place at the same time:

- **Phase 1**: original construction phase of the building (see § 6.5.2).
- **Phase 2**: dismantling of the original south wall and extension of the building towards the south; the fountain basin appears to have been in use.
- **Phase 3**: construction of a 'new southern wall' and a new outlet channel for runoff water, incorporated into the new wall; the fountain basin appears to have been in use.
- **Phase 3bis**: possibly at the same time as above: the construction of an east-west wall dividing the building into two halves; since this wall has been dismantled it is not certain if its construction cut off the water supply system; fountain basin might still have been in use.
- **Phase 4**: construction of a north-south wall in the northern half, dividing the northern half into a western (room 2) and eastern section (rooms 1/3), cutting the water supply; fountain basin is no longer in use (at least not with running water supply) and its upper structure was probably dismantled at this stage.
- **Phase 4bis**: the above stage was shortly followed by the construction of an east-west wall dividing room 1 from room 3.

- **Phase 5**: use of the building as a banquet hall; deposition of 'soup kitchen' dumps east of the wall (see § 7.5.2).
- **Phase 6**: final use of the building as a banquet hall; deposition of dump of final event inside the building; deposition of layers covering the dump; probably abandonment and partial dismantling of the building (see § 7.5.2).
- **Phase 7**: subdivision of the remains of room 2 into a northern and southern half (**Fig. 7.78**); access to room 2 is provided via partially dismantled wall between room 1 and room 2 (see § 7.5.3).

Phases 1 to 4bis must have been accompanied by several adaptations to the original floor as well. Even though there are no physical remains of a stone (or brick?) floor preserved in the building, it seems very unlikely that the floor would have consisted of nothing more substantial than beaten earth.[901] First of all, this type of rooms needed to be easy to clean after each communal meal (see the *asaroton* described below) and some dining halls were even equipped with elaborate water infrastructure. It is therefore not unlikely that even if the fountain basin was no longer in use, the water outlet channel could still have been used to drain cleaning water from the room. The fill of the channel, however, suggests that it was already filled up before the time of the final event. Secondly, there are no parallels for beaten earth floors in other *scholae*: Beate Bollmann mentions the use of either mosaics or *opus sectile*, while complementing that marble slabs would have been more common in single-room halls (*Saalbauten*) and in remodelled *tabernae.*[902] We presume that limestone slabs could have been appropriate as well. Thirdly, the outlet water channel must have been covered by stone (or brick?) slabs, which would have been more or less level with the presumed floor and which would have been removed at the same time. Fourthly, throughout most of the rooms no fragmented finds were encountered trampled into this compact earth[903], which would be very unlikely if this level at any time served as a permanent floor. Thus originally, there must have been a more substantial floor and stone[904] appears to have been the most adequate choice. Throughout the dumps, a lot of limestone fragments have been encountered that are most likely to be associated with the removal of the floor and/or the dismantling of internal furnishings in the building. Among the stone fragments were an amount of red sandstone fragments, possibly all originating from one decorative element, that were encountered throughout the rooms (**Fig. 7.60 a**). Very few marble fragments have been found, and only around half a dozen mosaic stones, suggesting that the building was either never lavishly decorated or – less likely – that the dismantling of the building happened very efficiently. Regarding the large chunks of limestone and sandstone encountered throughout the dump, the demolition men would have left also more traces of any other decorative features. Similar observations were made in the case of the site G complex, where it was concluded that the original stone floor slabs of the complex were recovered after abandonment.[905]

7.5.2 The *schola* as a banquet hall

The subdivision of an originally large open space into several smaller quarters constitutes an important change in the building's architectural layout and internal furnishings that seems to reflect a significant reinterpretation of its functionality. The building was altered from a more or less square, uninterrupted room, with one main entrance in the northern wall and a central water fountain against the back wall, into a multi-roomed larger building, probably with an antechamber to the south and with several smaller rooms in the northern half, one of which was separated from the rest of the building by its own entrance from the outside (the original northern

[901] Even in a much later phase, when the building was no longer in use as a communal place for feasting, an improvised brick floor was laid out for some temporary activities, possibly related with the dismantling of parts of the standing walls (see § 8.5.3).

[902] Bollmann 1998, 131.

[903] Locally, *e.g.* east of the fountain basin and outlet channel in space 4, concentrations of fragmented and trampled pottery *have* been encountered at this level (PQ 2 2012 and 2014 internal excavation reports, respectively by Sven Van Haelst *et al.* and Johan Claeys). Since these concentrations do not occur elsewhere in the building, they should probably be associated with the works involved around the extension of the building towards the south. Indeed, this is the zone where the mortar preparation area was and the chronology of the fragments confirms a date around the late 1st or early 2nd century AD. This layer would have subsequently been buried underneath stone slabs.

[904] Wood is not a likely alternative: it is more difficult to maintain in these circumstances and it does not seem to accord with the imprints we witnessed in the mortar substratum along the drainage channel of the central fountain.

[905] Talloen *et al.* 2005 in *Kazı Sonuçları Toplantısı* 27, 279.

entrance of the building). In the *schola*'s new phase of use the water infrastructure was either completely abandoned or at least adapted to play its part in the new functionality of the structure. The material finds associated with this next phase of use of the building show that it kept on serving as a (semi-)public structure, most clearly associated with communal dining throughout the 2nd century AD and into the 3rd century AD (see further). Even though the original building clearly went through significant changes, its identification as a *schola* can still be justified, not in the least because the term '*schola'* covers a wide variety of possible layouts and functions. Thus a single-space hall-type building installed for religious congregations or a multi-roomed building with communal feasting as its main function can both be labelled '*schola'*, since they both cater for the needs of associative community life. The building might have been divided into smaller spaces either in order to provide space for different groups at the same time, to provide adequate space for smaller parties (for rent?) or to use specific rooms for different purposes (*e.g.* storage rooms).

The material found inside and outside the PQ 2 *schola* can be directly associated with the working and functioning of the building (see further). There have been few cases in which a building could be identified as a *schola* in the complete absence of both epigraphic or iconographic confirmation. Historical research on Roman *schola* has indeed been mainly iconography- and text-based[906], until to some extent Onno Van Nijf (on professional Associations in the Roman East)[907] but especially Beate Bollmann (on Roman 'club houses')[908] included archaeological data in their late 1990's monographs. Even then, the archaeological information available to them consisted mainly of observations concerning the buildings architecture and in some cases its furnishings. Many positively identified *schola* were excavated in the 'old-school' way, with little to no attention for (post-) occupational layers and their associated small finds. Even the one well-documented small finds assemblage specifically mentioned by John Donahue – *i.e.* the Schola Praeconum at Rome[909] – actually concerns dump deposits postdating the use of the building. A better example is probably the 'meeting-place' excavated at the Judean site Khirbet Qumran[910], which will be occasionally referred to throughout these paragraphs. Even though this building predates Roman times and might be part of a private complex (thus the term '*schola'* hardly applies here), significant parallels can be drawn with its functioning as a banquet hall and its associated finds. Moreover, a recent paper in *Herom* on the 2012 dump contexts excavated east of the PQ 2 *schola* refers to a study of the material encountered in a series of ditches near to a Roman *castellum* in Zwammerdam (The Netherlands) as its closest parallel.[911] The fact that we have to refer to contexts that are remote in time, space *and* functionality as our closest parallels shows that – despite the obvious large output of scholarly studies on *schola* and ancient banquets – how limited the available archaeological data is. The obvious lack of excavated and published contexts related with activities directly associated with *scholae* (such as feasting) makes the completion and publication of the Sagalassos PQ 2 excavations all the more urgent.

Jean-Pierre Waltzing describes *scholae* as containing such facilities as 'preparation rooms', a kitchen, tables, a cistern, a shrine/temple and banquet rooms.[912] This might only have been the case for larger *scholae*, with smaller venues consisting of multi-purpose spaces and no proper kitchen (cooking could always have taken place outside on improvised, temporary facilities). Banquet halls were more often than not lavishly decorated with

[906] The five volumes of Jean-Pierre Waltzing's *Etude historique sur les corporations professionnelles chez les Romains* remain the basic starting point for many scholars (Waltzing 1885-1900). Current research still mainly revolves around the study of newly found inscriptions and the study of figurative depictions of conviviality on objects, in wall paintings and in mosaics (*e.g.* Dunbabin 1999; idem 2003; Smith 2003; Dunbabin & Slater 2011).

[907] Van Nijf 1997.

[908] Bollmann 1998.

[909] Donahue 2004, 253 Footnote 62. The *Schola Praeconum* was the meeting hall of the Roman public heralds, dating to the Severan period. However, the small finds discussed in Whitehouse 1982 and 1985 have nothing to do with the *schola* itself: "*The deposit, therefore, consists of refuse combined with rubble from a well-appointed building. Perhaps a nearby structure became derelict, was used as a tip and eventually was demolished, the entire debris being dumped in the* Schola Praeconum*, which already had been stripped of its fixtures and abandoned.*" (Whitehouse 1982, 54)

[910] De Vaux 1973, 5-24 and especially 11-15. The site has since been reinterpreted as not being the centre of an Essene community, but rather as the nucleus of a large manor (Hirschfeld 1998). However, this does not change the possible parallels that can be drawn between this site's 'banquet hall' and the PQ 2 *schola*.

[911] De Cupere *et al.* 2015, 192.

[912] Waltzing 1885-1900, I, 229-230.

decorative floor pavements (mosaics, *opus sectile*, *etc.*) and wall paintings.[913] Even though fragments of marble wall veneer and glass tesserae were found in very small quantities throughout the building, the absence of more substantial leftovers suggests that the cladding of the building remained modest throughout its existence. Even if the building might have been skillfully stripped of any valuable materials after it went out of use, one would expect that the activity itself would have resulted in more fragments and traces of the original decoration. The only possibly decorative part of furnishing that can be traced in the building are a roughly carved limestone pinnacle (**Fig. 7.60 b**) and the above-mentioned fragments of red sandstone (**Fig. 7.60 a**). The walls were apparently covered with a simple layer of white plaster, preserved along the lower stretches of wall in several rooms of the building; at least in the northeastern corner there appears to have been a phase of re-plastering covering the faded original plaster.

Fig. 7.60 a/b. Stone fragments, probably originating from decorative/architectural elements in the 2nd-3rd century AD *schola* setting: a) red sandstone, of which several large fragments have been encountered; b) roughly worked limestone pinnacle.

[913] Bollmann 1998, 127-155.

Archaeological remains of *scholae* demonstrate that some *collegia* constructed spaces for explicit use as banqueting facilities, most often in the form of *triclinia*, while other *scholae* include large multipurpose rooms, into which moveable couches could be placed for communal meals.[914] There are no indications for fixed, permanent tables in the room(s) of the PQ 2 *schola*. This is not exceptional, since installing immovable furniture would severely limit the building in its (multi)functionality. If we are indeed dealing here with a building used by a professional *collegium* or a cultic or funerary society, then *convivia* (communal meals in a festive setting) are only one of the possible activities that would have been part of the association's repertoire. It was more common to make use of portable tables and chairs, which could be stored in an annex or upstairs room with the rest of the necessary amenities (tableware, cooking vessels, *etc.*).[915] Probably most of the regular convivial events organized by *collegia* would not have required reclining on couches. The three rooms in the northern half of the building were too narrow to properly install even temporary *triclinia*[916] and the larger space 4 was unsuitable because of the position of the main entrance and the additional passages to rooms 2 and 3. Moreover, 'dining by *triclinia*' is more associated with domestic, small-scale and/or elite contexts[917], while seated meals stood for a simpler, less honorific form of dining, for the lower classes and for establishments such as *popina* and *tabernae*. Dining at tables with chairs must certainly have been a valid alternative – and possibly the only option – for many associations. The ancient written sources, paintings and mosaics would suggest a preponderance of reclined dining[918], but it should not come as a surprise that special occasions or elite settings which required formal reclining were more likely to be eternalized in text and image. Chairs were also claimed to be the 'weapon of choice' in less Romanised areas.[919] Large events, such as the 'final banquet' described below, could not have taken place at tables inside the building alone, even if all the rooms were being used at the same time. It is likely that the surrounding open space was part of the banquet setting, with additional tables, couches or simple mats/blankets for participants to enjoy their meals. Cooking the meal was most likely an outdoor activity as well.[920]

'Soup kitchen' dumps east of the *schola* (Phase 5)

During the 2012 campaign, a 2nd century dump of pottery and faunal remains was excavated immediately east of the eastern wall of the building. The dump was piled 0.7 m high against the wall, deposited on top of a (first half) 2nd century AD walking level coinciding with the exterior walking level associated with the 'new' southern wall (see earlier).[921] The faunal assemblage has been studied by archaeozoologist Bea De Cupere and Sheila Hamilton-Dyer, the pottery is discussed by Jeroen Poblome and the archaeological context is sketched by Sven Van Haelst.[922]

When looking at the typological composition of the ceramic material, it is striking how few types are actually well represented (**Table 7.2**): vessels for serving and consuming account for more than 87 % of the total amount of sherds (**Fig. 7.58**). The complete lack of misfired pottery, spacers and kiln waste shows that we are not dealing here with one of the many Eastern Suburbium dumps from potters' ateliers, while the homogeneity of the assemblage, together with its low fragmentation rate, make this specific dump stand apart from any contemporary domestic waste encountered at Sagalassos. The ceramic assemblage best fits in a context of

[914] Ascough 2008, 33-34.

[915] De Vaux 1973, 11-12 ; Donahue 2004, 32.

[916] These rooms are respectively 2.7 m (room 1), 2.85 m (room 2) and 3.35 m (room 3) wide. *Klinès* (couches), of which permanent, stone versions have been found, were on average 1.20 m wide (Dunbabin 2003, 32, 98). Incidentally, Greek couches at symposia settings appear to have been more narrow on average at 0.80-0.90 m (Dunbabin 2003, 37-38). While the PQ 2 *schola* rooms would have barely allow for the installation of a *triclinia* setting, this would have left inadequate space for the communal table in between and the usual ledges in between. All the known examples of *triclinia* rooms depicted in the studies by Katherine Dunbabin (2003) and Beate Bollmann (1998) are at least 4.25 m wide.

[917] Dunbabin & Slater 2011, 440-443.

[918] Dunbabin 2003, 79-83, 89-91, Figs. 41-42 and 45-47; Dunbabin & Slater 2011, 440, 443.

[919] Adkins & Adkins 2004, 176-177; Dunbabin & Slater 2011, 449.

[920] The emancipation of kitchens and their integration into the household's communal space is a very recent (and western) evolution; throughout time kitchens were either located in half open spaces (for example in the *atria* of Roman houses) or in small backrooms. Communal dining would often involve that a large part of the food preparations would have to take place elsewhere (most likely outside).

[921] PQ 2 2012 internal excavation report by Sven Van Haelst *et al.*

[922] De Cupere *et al.* 2015.

serving and consuming food in a larger (communal?) gathering of people. The relatively low quality of the material is shown by the slipped surfaces of the vessels, which points towards a non-elite setting. The assemblage can be compared most closely to the SRSW Phase 4, which is dated in the second half of the 2nd century AD.[923] This corresponds with the 'second life' of the *schola* as described above: after its extension towards the south, the subdivision of the northern half into three smaller rooms and the abandonment of the fountain basin.[924]

The faunal remains (**Table 7.2**) can be compared with other Roman Imperial (1st to 3rd century AD) assemblages within Sagalassos, which were identified as 'common' food waste. These assemblages[925] show a preponderance of sheep and goat and an underrepresentation of pig and cattle, which is in sharp contrast to the composition of the PQ 2 faunal assemblage, as shown by the abundance of cattle (58 %), the atypical distribution of skeletal elements (mainly meat-bearing parts) and the relative old age of slaughtered pigs and sheep/goat.[926] The cut and chop marks on the bones suggest that the dismembering and portioning of the carcass took place somewhere else and the cattle bones might even have arrived meatless at the PQ 2 site. The main aim seems to have been the retrieval of the highly nutritional fat in the rounded end of the long bones, which was obtained by boiling the chopped or crushed spongy bone (**Fig. 7.62**). These practices would be common in the process of preparing meaty parts for a soup or broth. All these diverging features of the faunal assemblage indeed point to a very particular origin, in many ways reminiscent of a Roman Imperial dump of faunal remains encountered near the *castellum* at Zwammerdam (Netherlands), which was identified as a so-called 'soup-kitchen'.[927] An alternative explanation of the PQ 2 assemblage as originating for glue-manufacturing has been invalidated, both on the basis of the faunal remains themselves, as well as on its obvious association with the remains of a very specific set of pottery.[928] The case of Zwammerdam, as a matter of fact, is not that certain – hence the question mark in the title of Van Mensch' article. James Rackham[929] rather believes that the waste at Zwammerdam results from glue production, since "*there is little to justify the exclusion of other bones from a soup kitchen* […]".

Romans were certainly acquainted to soup, even though it has been referred to in early texts as a barbaric (Germanic) custom. The origin of the Latin word *suppa* indeed comes from a Germanic root, from which also the word '*sop*', meaning the chunk of bread used to soak up the soup/broth/stew, derives.[930] Marcus Terentius Varro, a writer from the 1st century BC, mentions 'bone soup' as one of the appropriate meals to feed dogs, after stating that "*the food of dogs is more like that of man than that of sheep*".[931] However, all references seem to refer to non-elite settings. Indeed, even when soups and broths became a common component of the Roman diet in Imperial times, they are considered as food for the working class and are not mentioned by authors describing the Roman 'haute cuisine'. Common households mainly thrived on any type of meal that could be prepared in a single cook pot, *e.g.* soups and broths, but also stews and porridges. When there were no official dinner obligations with invitees to impress, even the elite might have tried their hands on soups, which, after all, were apportioned with medicinal qualities such as clearing constipations, settling the 'burning of the urine' and increasing fertility.[932]

[923] Poblome 1999, 312.
[924] PQ 2 2014 internal excavation report by Johan Claeys.
[925] De Cupere 2001: 77, Fig. 26; 93 Figs. 43, 44 & 45; 140 Fig. 99; 142 Fig. 101.
[926] De Cupere *et al.* 2015, 178-179 Table 1, 190 Table 7.
[927] Van Mensch 1974, 159-165.
[928] De Cupere *et al.* 2015, 192.
[929] Rackham 1994, 56-57.
[930] Van Mensch 1974, 164.
[931] Varro *De Re Rustica*, 9.8-10.
[932] Rumble 2009, 23-29.

	Count	%	Weight (g)	%
Cups	76	8.5	641	3.2
1B150	98	10.9	1,355	6.8
1B170	87	9.7	1,307	6.5
1B190-1	120	13.4	1,515	7.6
Other bowls	64	7.7	1,791	8.9
1C100	139	15.5	1,075	5.4
1C120-3	29	3.2	361	1.8
1C190-1	33	3.7	496	2.5
Other dishes	82	9.1	3,094	15.5
1F150	146	16.2	4,854	24.2
other	25	2.8	3,541	17.7
Total	**899**	**100.0**	**20,030**	**100.0**

Table 7.1. Count and weight of the most represented SRSW categories, types and variants within the 2nd century AD PQ 2 dump east of the *schola*. The serving and consuming wares accounted for 87.4 % of the total number of sherds and 67 % of the total weight (in grams). From De Cupere & Poblome, accepted.

	NISP (n)	NISP (%)	Weight (g)
Wild			
Brown hare	1	0.1	
Domestic			
Chicken	6	0.3	
Dog	1	0.1	
Pig	493	27.3	3,153
Goat	32	1.8	321
Sheep	24	1.3	196
Goat/sheep	198	11.0	1,188
Cattle	1,053	58.2	29,199
Identified total	1,808	100	
Unidentified mammals	1,442	*na*	12,649
Grand total	**3,250**	**100**	**46,706**

Table 7.2. Animal species represented in the PQ 2 dump east of the *schola*, based on the number of identified specimens (NISP). For the main domestic species the weight (in grams) is also give. From De Cupere & Poblome, accepted.

While the cattle bones can be interpreted as the remains of a soup-kitchen, the presence of other domestic mammals show that other food preparation also must have taken place at this location. The absence of cranial fragments and feet bones among the pig remains, in addition to the higher age on which the animals were slaughtered, points towards the consumption of 'second choice' pork meat at PQ2. The same seems to be applicable for the sheep/goat remains, among which no young specimens were encountered. Also the use of cattle for making a soup or a broth, also points towards 'second choice' consumption.

Fig. 7.61. Selection of well preserved and reconstructable dishes of type 1C100, as found within the 2nd century AD PQ 2 dump east of the *schola*.

Fig. 7.62. Examples of chopped distal humerus of cattle, as found within the 2nd century AD PQ 2 dump east of the *schola*.

All characteristics of the PQ 2 assemblage seem to point out the adjoining *schola* building as its source. The dump must have originated from communal dining activities in or near the *schola*, a building specifically designed to cater for groups of people. The pottery remains must have originated from a large SRSW crockery of simple tableware, consisting almost exclusively of cups, bowls and dishes. Most of the faunal remains are indicative for the preparation of soups or broths, which is an easy meal to prepare for large groups of people. The identification of the PQ 2 building as a place where communal dining activities took place, could be convincingly confirmed with the excavation of a complementary context during the 2014 campaign, described below.

'Final banquet' dump within the *schola* (Phase 6)

During the 2014 campaign the well-preserved remains of additional dumps were encountered within the building, more particularly in rooms 1 and 2 and in the western half of space 4 (**Figs. 7.53/7.63**-**7.65**). The assemblage consisted mainly of ceramic tableware, faunal remains and glass sherds. Finds were made throughout the rooms, but there were clear concentrations along the western and southern wall of space 4, along the western wall of room 2 and in the eastern half of Room 1 (thus not in front of the entrance to this room). Because of the extensive surface that was covered by this dump, the finds were collected per room, but also per concentration within rooms.

The dump has been preliminarily dated to the end of the 2nd or early 3rd century AD, in line with – but postdating – the existing tradition of communal meals described above. In contrast to the 2nd century AD dump(s) excavated outside of the building's eastern wall (see earlier), this dump was never removed from the building's premises. It also differed in the fact that the fragmentation rate of the remains is still far lower than the dump described above: many of the vessels were still complete, many were broken but still lay in 'anatomical order' and most of the remainders can probably be completely reconstructed during refitting. This assemblage also seems to represent an even more homogeneous set of tableware than the dump east of the *schola*: the vast majority of the ceramic finds are made up by one type of cups and a very limited spectrum of bowls and dishes. The homogeneity of the assemblage seems to indicate that the dump resulted from a single event, and the high level of preservation, with no indications for trampling, show that the remains were covered up before the building was made accessible again. The finds that were complete or that could be immediately reconstructed to complete vessels included 13 bowls, 18 dishes and 52 small cups (**Fig. 7.66**). The small cups are overrepresented in this selection, due to the fact that their small size, their shape and the relative thickness of their walls ensured a better preservation. From the observations in the field it seemed more likely that every participant in the feast – probably more than 75 people – were provided with a bowl, a dish and a cup.[933] Larger drinking cups and pouring vessels were also encountered, but in far smaller numbers; cooking ware was very much

[933] A more detailed study of this specific ceramic, faunal and glass assemblage has started, but is mostly planned for the 2015 campaign. The quantification of the finds should shed more light into the composition of this assemblage and thus on the scope and type of the event and on the nature of its participants.

underrepresented. There were not obvious concentrations of specific types; the (few) types of tableware were encountered in more or less equal proportions throughout the individual concentrations.

Fig. 7.63. Orthophoto of the northeastern room 1 of the *schola* and its associated find concentrations, which clearly have accumulated in the western half of the room, away from the entrance. The upper layer of the find concentrations has already been removed.

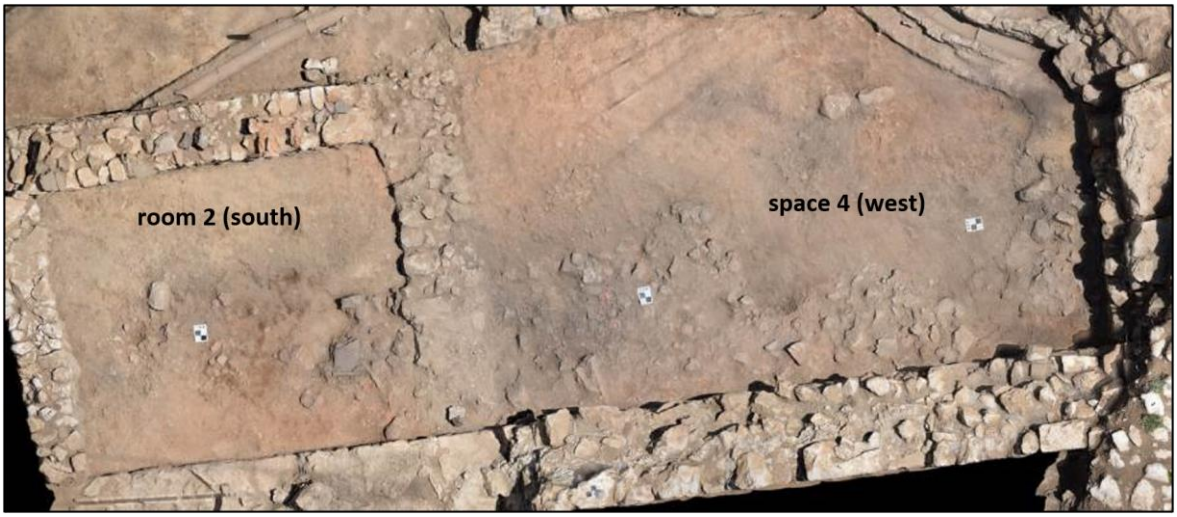


Fig. 7.64. Orthophoto (north is to the left) of the southern half of room 2 and the western half of space 4 within the *schola*. This is the second level of finds; the upper level (belonging to the same layer) had already been documented and collected.

Fig. 7.65. View from the north on the find layer accumulated into the southern half of the northwestern room (room 2) of the *schola*. To the right and in the background one recognizes the dismantled western and southern walls of this room; in the foreground a later inner wall dividing the northwestern room into two halves (wall L104 in Fig. 7.78).

The same assemblage also contained a lot of oil lamps (**Fig. 7.66**); this might mean that the feast took place at or continued into the night or that the interior of the building needed additional lighting even during daytime (remember that no indications for windows have been encountered in the building's standing walls). Fragments of glass vessels (mainly drinking vessels) were also present throughout the whole find assemblage, but there were less indications that these as well could be reconstructed into complete vessels. Among the finds were (only) four bone spoons, all of the same type (**Fig. 7.70**). Eating with hands was the more common practice in Antiquity, with chunks of bread being used to scoop up food.[934] This was also the case for soups/broths, which would have been soaked up with bread.[935] But it might also be that a majority of wooden spoons did not preserve in the archaeological record or that spoons – being more valuable and possibly regarded as personal items – were not as easily discarded as the ceramic vessels themselves.

[934] Smith 2003, 27-28.
[935] Van Mensch 1974, 164.

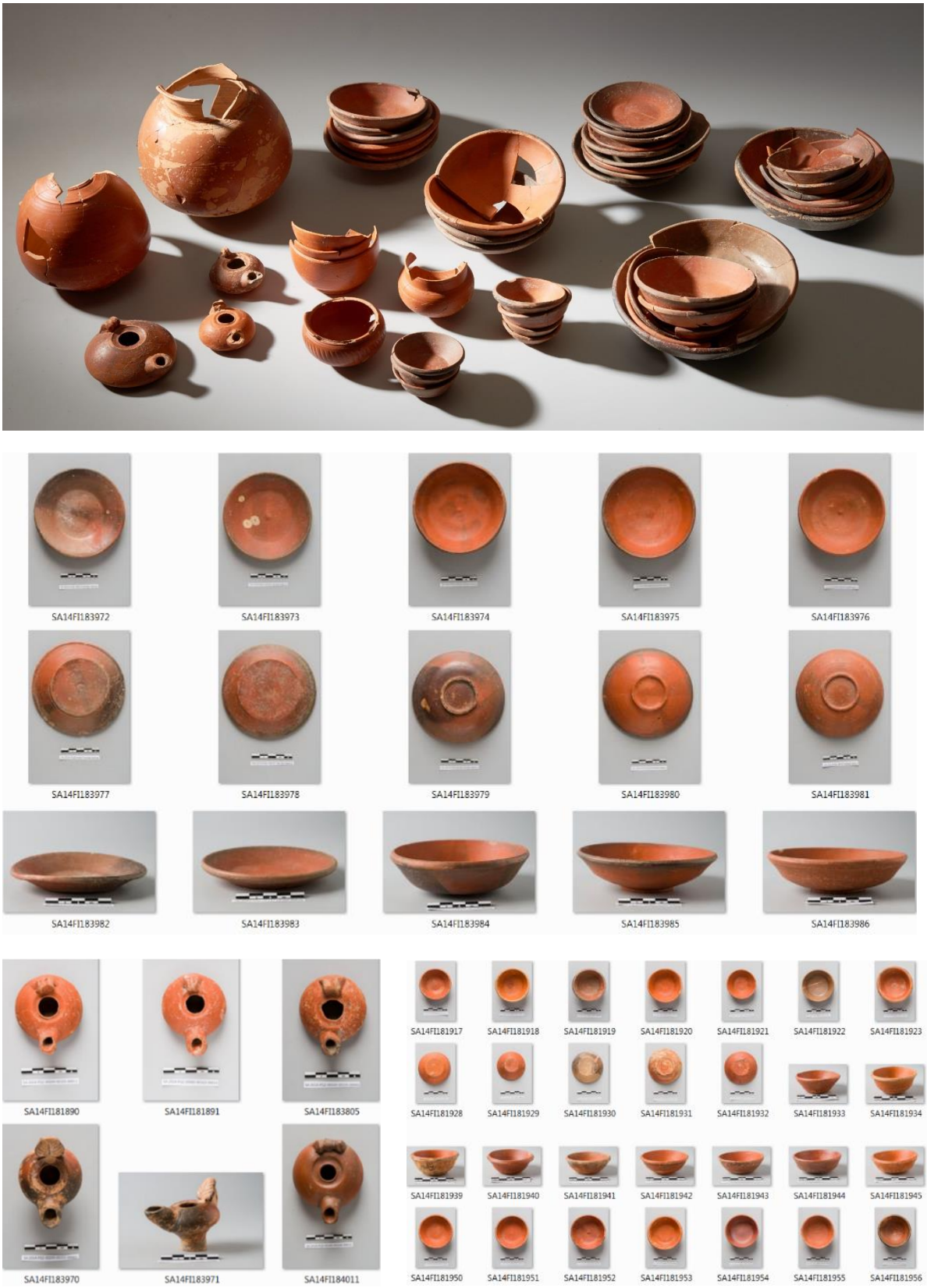


Fig. 7.66. A sample of the ceramic finds from the contemporary find assemblages encountered throughout the different rooms of the *schola*. This particularly homogeneous material group consisted for the lion's part of one specific type of cups, dishes and bowls, as well as a disproportionately smaller amount of serving vessels. The presence of many oil lamps, in a somewhat more diverse spectrum of shapes, was also noteworthy.

Besides the ceramic artefacts, the find assemblage also contains lots of fauna, apparently randomly distributed between the ceramic finds, with some bones appeared still contained within vessels (further research on the faunal remains is planned for the 2015 excavation season). In addition to collecting the faunal remains, soil samples were taken in order to study the palaeobotanical remains as well. At first glance, the bones appear to be more diverse but also less well preserved (?) than the bones from the 'soup kitchen' encountered in the 2nd century waste dump to the east of the building described above. During banquets it was the habit to throw bones, bits of bread (used as napkins) and other food scraps to the floor, where the dogs could feast on them.[936] In the case of the PQ 2 site, however, the faunal remains did not form a distinguishable 'layer' underneath the pottery; pots and bones were equally mixed in the assemblage. The remains of the banquet indeed appear to have been thrown/swept to the side after the feast was finished, apparently in order to allow for some passage (see for example the 'dump-free' stretch along the eastern wall of room 2 in **Fig. 7.65**). Moreover, the amount of vessels encountered within the walls represent more people than could have participated inside the building alone, which means that the remains of the outdoor feasting must have been brought in as well.

It was common during Roman time banquets to drop the remains of food on the floor, so much so that it became an iconographic theme in its own right: the '*asarotos oikos*'[937] or simply '*asaroton*' ('the unswept floor/room', **Figs. 7.67**-**7.68**). The remains were left for house pets to profit and were only cleaned up after the meal, which is one of the reasons why the floors had to be easy to clean. Nevertheless, none of these depictions show broken pottery as part of the waste, which might be explained by the elite settings and the use of more valuable items for serving and consuming. But it probably also reflects how discarding vessels after a meal was not the common practice (see also the funerary feasting dumps encountered at site F, § 6.4.4). We should probably interpret the pottery among the waste dump east of the PQ 2 *schola* as resulting from the occasional breaking of pottery during a series of communal meals. This seems to be confirmed by the proportion of pottery vs. faunal remains within the assemblage.[938] The dump encountered within the building, on the other hand, has to be interpreted differently, as it is clear that the whole crockery set used during the event was buried together with the food remains (see further).

Other worked bone items present within the dump inside the *schola* mainly consisted of pins and needles (**Fig. 7.71**). Since all other finds should be understood within a banquet context and because of the homogeneity and completeness of the assemblage, we suggest that also these bone needles and pins should be explained within a banquet setting. The bone pins are most likely to be explained as hair-dressing attributes[939], while the same might be an optional explanation for the needles as well.[940] This immediately opens the question of the gender composition of the participants to the event (see further).

[936] Smith 2003, 27-28.

[937] Incidentally '*oikos*' is also used to describe *scholae* (Smith 2003, 94).

[938] This can only be calculated when the quantification of the faunal remains and pottery of the 'final banquet' dump is done during the 2015 campaign. However, the observations in the field already seem to justify this remark: for the 'soup kitchen' the ratio fauna/pottery is *c.* 5/2 in weight and more than 3/1 in count, while it will be only a fraction of that for the 'final banquet' dump.

[939] Some disagreement centres around the function of these pins, in particular whether they were used to fasten clothing or whether they were worn in the hair (MacGregor 1976, 13). If we draw evidence from the burials encountered in the PQ 4 burial compound, then clothing pins (including fibulae) are made of metal, while bone pins are found next to the crania and are identified as hair pins. In one case a fragment of a bone hairpin was found in association with a male individual (T12), while the other, complete bone hairpins were found next to female individuals (T1 and T6) (Talloen 2012 internal PQ 4 excavation report).

[940] Janet Stephens suggests that needles were indispensable items for Roman hairdressing, in such that sewing of the hair was necessary to create some of the more intricate Roman hair coiffures. Moreover, hair sewing would also "*help explain the large, dull sewing needles made of bone, as well as needles of similar dimensions made from exotic or 'impractical' materials, such as glass or gold* […]" (Stephens 2008, 132).

Fig. 7.67. Banquet scene from the 5th century AD, originally from the Levant and on display in the Chateau de Boudry, Switzerland. The '*asarotos oikos*' is a popular theme in Roman mosaic iconography. It depicts how all food remains of a banquet end up on the floor, where it would be scavenged by dogs and vermin. From chateaudeboudry.ch.

Fig. 7.68. Detail from a 2nd century AD mosaic floor signed by the Greek artist Heraklitos, originally from Rome's *Vigna Lupi* and now on display in the Museo Gregoriano Profano at the Vatican. The mosaic depicts a.o. sea shells, lobster claws, snails, chicken legs, dried fruits, fish skeletons, grape-stalks, egg shells, flowers, a mouse gnawing at a walnut, *etc.* in a convincing trompe-l'oeil with the debris casting an eternal shadows on the floor. The absence of pottery sherds in these representations is noteworthy. From Dunbabin 1999, 26-27.

Fig. 7.69. Stone gaming piece (?), found among the banquet dump in the southern half of the northwestern room of the building. Also a polished, small, white stone (gaming?) disc was found in the same concentration.

Fig. 7.70. Bone spoon, found among the banquet waste dumped in the northern half of the northwestern room of the building. Three spoons of the same type have been encountered in other rooms of the building.

Fig. 7.71. Some of the needles and hair pins, found among the banquet dump throughout the building. Regarding the context in which they were found, it is possible that the needles were used in hairdressing rather than in clothing (cf. Stephens 2008).

Fig. 7.72. Two of the coins found among the banquet dump. Top: denarius of Marcus Aurelius as Emperor (dated 170-171 AD); Bottom: bronze coin of Marcus Aurelius as Caesar (dated 139-161 AD).

In the same assemblage two small stone artefacts were encountered that probably should be identified as gaming pieces: a small white stone token with a plano-convex vertical section and a rectangular piece with circular recesses on both sides (**Fig. 7.69**). Entertainment appears to have been standard in banquets (as it was in the symposia), on the one hand in the form of music and dancing, dramatic/comedic plays, riddles, poetry and philosophical discourse[941] but there is also reference in texts and iconography to games and gambling, especially preceding the banquet.[942] The white token could have been used in a variety of Greek and Roman board games, *e.g.* early variations of the well-known current games of chess (Greek *petteia*/*pesseia* and Roman *latrunculi*), checkers (*calculi*) and backgammon (*duodecim scriptorum* or *tabuli*).[943] Just like nowadays games would have required two sets of round tokens or counters, generally a dark (black) and light (white) coloured set, which sometimes carried the owner's initials or name. Any suitable, lasting type of material could be used to make the tokens (bone, ivory, stone, glass and terracotta account for most of the tokens that survived, while wood might have been a very popular material).[944] The round gaming piece found in the PQ 2 *schola* did not carry any inscription, ruling out its use for games in which symbols on the tokens were needed to individualize the gaming pieces. Possibly also the several *astragali* encountered throughout this dump, seemingly the odd ones out within the faunal assemblage, are actually gaming pieces from the popular knucklebones game (*tali et tropa*).

Nine coins[945] were found throughout this dump, among which a bronze as of Marcus Aurelius as Caesar (dated to 139-161 AD) and a denarius of him as Emperor (dated to 170-171 AD) (**Fig. 7.72**). Those nine coins cover a relatively wide time span (117-270 AD[946], **Fig. 7.73**), which makes it at first sight difficult to associate them with was has been identified quite convincingly (see above) as a dump resulting from a one-time event. However, they clearly form a chronologically distinct group among the whole set of coins encountered at the PQ 2 site, which covers Hellenistic (not represented in the figure), Imperial, Late Roman and Early Byzantine coinage.[947] The earlier, 2nd century AD coins are probably residual from activities inside the building preceding the 'final event'. Also the longevity of coin use might play part in this; in other words, some older coins might still have been in circulation at the time of the final event. However, if we indeed agree upon the homogeneity of the assemblage, then the later coins – one coin dated to 241-244 AD (Gordianus III), one to 244-429 AD (Philippus II) and one to 268-270 AD (Claudius II) – must have been around at the time of the deposition of these banquet remains, or at least at the time when the remains were buried. Since the deposition of those protective layers on top was suggested to have happened immediately or shortly after the event itself (no trampling of the remains, similar pottery encountered throughout the layers on top), there is little elbow room for an alternative

[941] Smith 2003, 34-38.

[942] Dunbabin 2003, 157; Dunbabin & Slater 2011, 449; 452. Public gambling was considered illegal throughout most of Roman history (Robinson 1992, 204-205), but the legislation was easily circumvented by using inscribed tokens, so-called roundels, with a monetary value instead of coins.

[943] See a.o. Kurke 1999 on Greek board games and a.o. Austin 1934 and 1935 on Roman board games.

[944] MacGregor 1976, 2-3; Clarke 1979, 251-254; Crummy 1983, 91-96. Gaming pieces have regularly been documented in detail on Roman sites in Britain, especially burial sites (*e.g.* Clarke 1979 on Winchester), military campsites (*e.g.* Crummy on Colchester) and sewers (*e.g.* MacGregor on York). There are to my knowledge no examples of finds of gaming pieces in a *schola* context. However, as mentioned in the text, very few *scholae* have been meticulously excavated and even fewer yielded find layers that belonged to their period of use.

[945] Currently, the numismatic study of the Sagalassos is performed by Johan Van Heesch and Fran Stroobants (Royal Library of Belgium); until 2004 the identification of the Sagalassos coins was done by Simonne Scheers (University of Leuven emeritus) was doing the identifications.

[946] This time span might actually be narrowed down, since the identification of the two oldest coins as belonging to Hadrian times remains to be verified, and the third youngest covers a large time span (139-161 AD). The time span might thus be just as well the period 160-270 AD. Nevertheless, this is not that relevant: the whole period of use of the building, since its middle 1st century AD construction, could be represented in the form of residual coins that slipped through gaps in between tiles and in wall joints (the Marcus Aurelius denarius, for example, was found in a joint between two stones of the wall dividing the *schola* in a northern and southern half).

[947] The observation that only one younger coin (4th-6th century AD) is encountered in the 'banquet dump' layer, shows that we are dealing here with a fairly well closed off context, probably due to the fact that the dump was protected underneath a thick deposit that was brought in immediately or shortly after the event. Coins, because of their small size, round shape and high density, are more likely than other artefacts to be susceptible to post-depositional processes, which is why drawing chronological conclusions solely based on numismatic data is in most cases biased. However, within well-defined, 'closed' contexts, it can produce trustworthy data, as has been shown for Sagalassos (Claeys 2004).

explanation for the presence of these 3rd century AD coins.[948] There also looms a notable gap between the 3rd century AD coins (associated with the use of the building) and the apparent reappearance of coins from 312 AD onwards (associated with later dumps inside and around the building). However, this appears to be a general trend in Sagalassos: the period *c.* 275-310 AD accounts for only 17 coins on a total of 2083 precisely dated late Hellenistic, Imperial, Late Roman and Early Byzantine coins found between 1990 and 2013 on Sagalassos sites outside the Eastern Suburbium (0.8 % of the total amount of coins, while the time span represents 5.5 % of the *c.* 40 BC – 600 AD period taken in account) (see Ch. 10). The small sample of the PQ 2 site (n=64) does not allow drawing statistically significant conclusions from the absence of coins for this period. However, the abundance of coins dating to the period 310-410 AD present in the higher dump layers within and outside of the building clearly give us a *terminus ante quem* for the abandonment of the building as a banquet hall. We thus suggest a late 3rd century AD date for the 'final event' eternalized in the banquet dump, with a predilection towards the period around or shortly after 270 AD.

The date retrieved from the coins does not contradict the preliminary data obtained for the ceramics. Nevertheless, the seriation work on the pottery assemblage from this dumps is a work in progress and will provide us with an independent chronological criterion for dating this context.

The feasting dump was deposited at a level that lies below the floor level associated with the extension of the building towards the south. This can only have happened if the presumed stone or brick floor was already dismantled before the waste was deposited. The finds were deposited on a compact, but rather uneven surface more probably to be identified as a floor substratum. Despite the lack of evidence for the presence of a stone/brick floor, the banquet and soup kitchen activities clearly associated with the building required an easily washable floor, *e.g.* mosaics, *opus sectile*, bricks, stone slabs, *etc.* The Khirbet Qumran 'meeting hall', for example, was equipped with an ingenious water infrastructure system for cleaning its floor: a closeable conduit at the upper end of the floor, a slightly sloping floor level, and a door opening at the lowest point at the far end.[949] A beaten earth floor would indeed have raised issues of hygiene and cleanliness.

After these communal regular soup kitchen handouts and feasting events, followed by the subsequent dumping of the festal remains, there are no indications that the building was still in use for communal purposes in the following centuries (see § 8.5.1). Indeed, throughout the building we see that the dumps were covered with a thick package of earth and waste immediately or shortly after the 'final banquet'. This considerable increment of depositions within the rooms, sometimes accounting for a raise in walking level to up to 0.60 m, would appear to have rendered the building unfit for further communal use. It might indicate another considerable shift in the building's functionality, but no evidence has been found for any specific types of activities inside the building, apart from its partial, planned demolition in later times. All indications seem to point out that the banquet dump inside the building indeed should be considered as a final communal event organized within the *schola*: the banquet was apparently meaningful enough for its 'remains' to be left as a 'reminder' inside the building's premises as it concluded a particular phase of use. A preliminary study of the faunal assemblage suggest that the variety of the consumed foods seems to reveal a more unique occasion as well, when compared to the soup kitchen dump associated with regular events encountered east of the building. Inscriptions mention simple meals, such as a diet of wine, bread and sardines, for the regular gatherings of the Worshippers of Diana and Antinous[950], standing in stark contrast with the exotic fruits that were specially imported for the banquets held by a *collegium* of rich businessmen in Rome.[951]

[948] Indeed, three of the four other coins that fall within the 240-270 AD time span (in green on **Fig. 7.73**) are collected from the layers immediately topping the banquet dump inside the building (the fourth one was found close to top soil west of the building) (PQ 2 2011 and 2012 internal excavation reports by respectively Johan Claeys and Sven Van Haelst *et al.*).

[949] De Vaux 1973, 11.

[950] Smith 2003, 1000; Toner 2009, 108; Dunbabin 2003, 99. Though it should be mentioned that all references to "*wine, bread and sardines*" are based on the same Lanuvium inscription erected by the Worshippers of Diana and Antinous.

[951] Dunbabin 2003, 99.

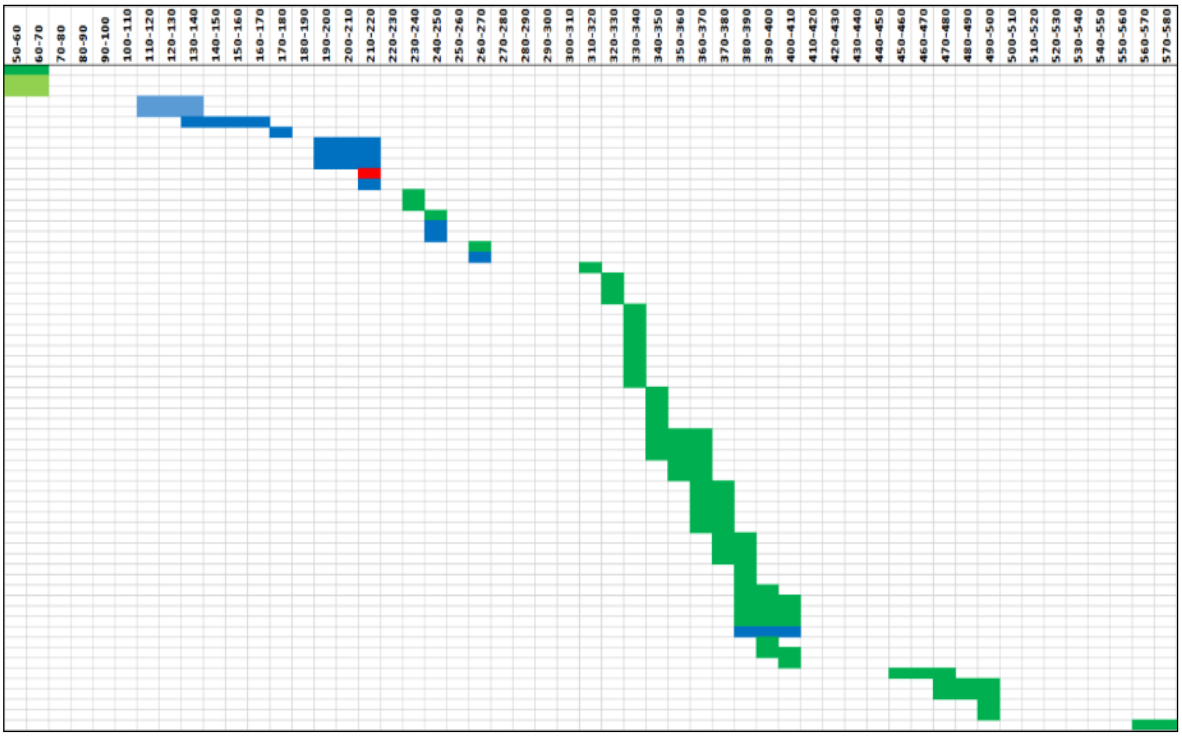


Fig. 7.73. Visualization of the coins encountered at site PQ 2 (2011-2014), plotted on a 10-year time scale 50-580 AD. Only the coins that could be precisely dated are taken into account (n=64, on a total amount of 90 coins). The nine coins that were encountered in the layer containing the banquet dump inside the *schola* are indicated in blue; the one coin associated with the 'soup kitchen' dump east of the *schola* in red; the other coins (from various contexts inside and outside the building) in green. Pale colours are used when the identification of the coin is not final. Despite the seemingly wide time span (117-270 AD) covered by the coins encountered in the banquet dump, they clearly (apart from one probably intrusive coin) fit into one particular period that we can most probably associate with the period of use of the building as a banquet hall.

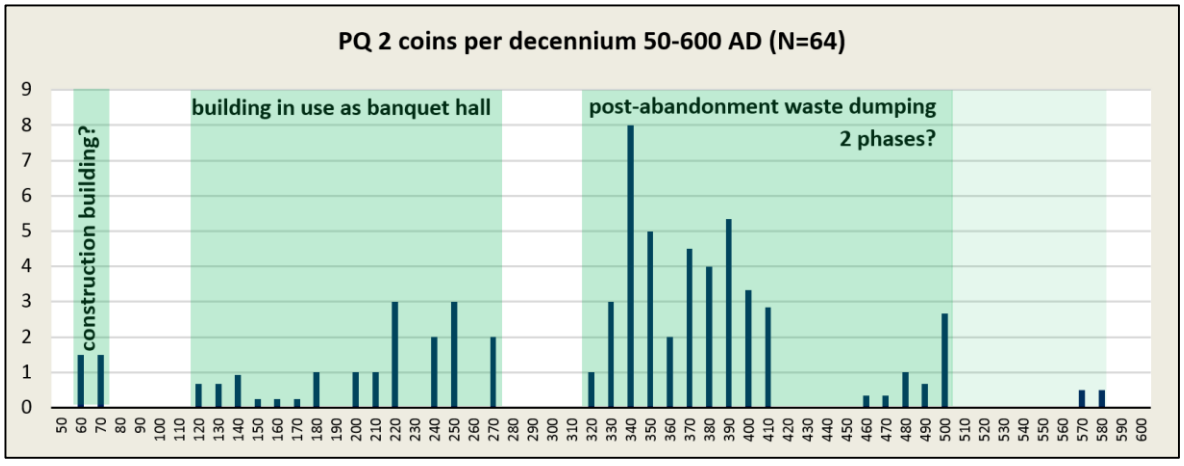


Fig. 7.74. Bar chart of the chronological distribution of the 64 precisely dated coins encountered during the 2011-2014 excavations (simplified adjustment for length of issue, e.g. the 3 coins dated 54-68 AD are represented as 1.5 coin 50-60 AD and 1.5 coin 60-70 AD). Despite the small sample of coins, it seems justified to state that the coin assemblage represents three distinguished periods of the building's history: its construction around the middle of the 1st century AD, its phase of use as a banquet hall (after the intensive interventions to the original building plan) and a period of waste dumping inside and around the building after its abandonment.

Discussion

Ancient texts describing regular associative convivial banquets[952] refer to rather simple diets for the festivities. The assemblage encountered east of the building suggests that soups or broths appear to have been the common basic ingredient of the recurrent meals enjoyed at the *schola*. The occasion associated with the dump inside the building, on the other hand, clearly deviates from the 'normal' pattern: the size of the event, the higher diversity of consumed foods, together with the observation that the dump was deposited and left intentionally inside the building and at the same time appears to have concluded the use of the building as a banquet hall, seems to point towards a more special, one-time event of commensality.

The habit of communal dining or commensality can be understood as a meeting among peers with the aims of partaking in rituals, solving practical communal matters while at the same time satisfying a basic biological need. Or in the words of Richard Ascough: "*people eat because they have to do so; people eat with other people because they choose to do so*".[953] John Donahue, applying Claude Grignon's 'typology of commensality'[954] on ancient Roman associative dining, categorizes all *collegia* meals as 'segregative commensality'.[955] By doing so, he emphasizes the importance of these communal activities in strengthening internal bonds, by contrasting the 'we' with the 'others': other social classes, rival religions and professions, strangers, enemies, *etc.* Governing their communal activities with a strict set of rituals and rules[956] was indeed an indispensable factor in fostering, through shared experiences and histories, a cohesive collective identity.[957] Richard Ascough, on the other hand, criticizes Donahue's one-sided view of associative meals, and also includes Grignon's categories of 'exceptional commensality' and 'transgressive commensality' as applicable to Roman *collegia* meals.[958] The former category contrast with 'everyday commensality' and is limited to special occasions in the annual calendar (*e.g.* festivals, birthdays, *etc.*) or in the lifecycle (*e.g.* marriage[959], promotion, death, *etc.*).[960] The latter category "*plays upon oppositions between social groups and the borders which separate them, characterized by temporal, porous group-boundaries in which there is a relationship of exchange between parties of a different social or economic status*".[961] This thus only applies to events in which the presence of a superior, "*distinguished guest*", *e.g.* the patron, is essential; the organization of communal meals was indeed one of the ways in which *collegia* could reciprocate his sponsorship. Finally, Claude Grignon himself also distinguished the subcategories 'extra-domestic' and 'semi-institutional' in which he himself classifies work-related commensality, by which he means the sharing of meals with whom one shares an institutional affiliation.[962]

It is not possible to reconstruct whether the 'final banquet' described above was a transgressive or segregative event, but it certainly falls within the above-mentioned category of 'exceptional commensality'. Since all evidence points towards a one-time (or at least final) event, we are most probably not dealing with an annual event but rather with an activity that would have marked one specific point in a lifecycle, which in this case does not seem to have concerned a person, but the building itself. Indeed, the event must have marked the end of

[952] Note that even though we tend to associate the word 'banquet' with copious, multi-course festive meals, it can as well be understood – as it is used throughout this paragraphs – as an (evening) meal enjoyed by many people on a formal occasion, in many cases accompanied by entertainment and speeches. The lavishness of the setting and variety of the menu are subordinate in this.

[953] Ascough 2008, 34-35.

[954] Claude Grignon's taxonomy consists of three contrasting pairs: domestic versus institutional commensality, everyday versus exceptional commensality and segregative versus transgressive commensality (Grignon 2001).

[955] Donahue 2004, 104: Donahue recognizes and stresses the exclusive character of the meal practices of *collegia*, since they serve a group "*to gain self-identity, to keep tabs on its members, and even to confirm internal divisions or hierarchies*."

[956] See for example the detailed by-laws of the Society of Diana and Antinous at Lanuvium (Smith 2003, 97-102, 126-128; Toner 2009, 108; Perry 2011, 506), the statutes of the *Iobakhoi* of Athens (Smith 2003; 119-122, 129-131), inscriptions describing the Association of the *Orgeones* at Athens (Smith 2003, 90-93) and compare with the meetings of the aristocratic Arval Brothers of Rome/Ostia (Scheid 1990).

[957] Katajala-Peltomaa & Vuolanto 2013, 21.

[958] Ascough 2008.

[959] Smith 2003, 40 Footnote 137: "*The* [wedding] *banquet was normally held at the home of the host, but such celebrations could also be held at sanctuaries*."

[960] *Ibidem*, 38-42; Ascough 2008, 38-41; Dunbabin & Slater 2011, 456.

[961] Smith 2003, 41-43.

[962] Grignon 1991, 26-27.

the building's use as a communal hall. The question that arises is whether the burial of the dump inside the premises resulted from the practical choice to get rid of the meal remains or whether it should be considered as an intentional ritual abandonment? The evidence seems to suggest the latter explanation: the amount and completeness of the crockery retrieved from the dump and the lack of associated contemporary finds outside of the building suggests that all remains from the feast were gathered with the intention to be buried inside the premises. It should be reminded that this amount of pottery accounts for an attendance too big for the event to have taken place only inside the building. The contrasts with the dump east of the *schola* are telling as well: the 'soup kitchen' dump did not result from a single event, but accumulated after a series of (regular) meals. The ratio fauna/pottery is much larger in the soup kitchen dump, suggesting that it was certainly not a common habit to discard all the crockery after the communal meals (see Footnote 938).

It has been put forward that the uniqueness of this context might be explained as the result from a disastrous event, such as an earthquake, interrupting the ongoing festivities. Because of its location in the seismological active Western Taurus mountains, the history of ancient Sagalassos must indeed have been riddled with earthquakes which would not have left enough permanent structural damage for us to be noticed in the archaeological record. Nevertheless, also lesser earthquakes would have been considered, then as now, as heralds of possible heavier shocks; in themselves they would have been terrifying enough for anyone to spontaneously leave any ongoing business behind and to gather outside.[963] Such an unforeseen happening would certainly have been regarded as a bad omen, which the *collegium* might have interpreted as a divine disapproval of their festive activities. However, the chance of an earthquake hitting the area during an event of 'exceptional commensality' (as suggested by the food on offer) is obviously small. Moreover, this hypothesis does not explain why the building seems to have already been stripped of its floor slabs before the banquet remains were deposited.[964] It is more likely that the abandonment of the building was planned and that the banquet should indeed be understood as a final event. Ancient texts refer to special festivities organized for the *collegium*'s day of foundation, the festivals related to the deities they worshipped or the birthdays of their patrons (and members of his family).[965] Banquets could also ensue when club members got married or promoted, when dead members were buried or commemorated, when a new (part of the) clubhouse was inaugurated, when a dedicatory statue was erected, *etc.*[966] The abandonment of a building would certainly fit this list of suitable events, in the same way a banquet would mark the dedication of a new *collegia*l building.[967] The (ritual) burial of the banquet remains on the premises should likewise be understood as an abandonment sacrifice. The fact that the banquet went hand in hand with stripping the building of any useful (and probably decorative) furnishings should be seen as an indication that the *collegium* itself was not abolished, but rather re-accommodated. The few statuary fragments, too small to identify, encountered in the fill of a later robbers' trench (see § 8.5.1), might have been part of the decor of the banquet hall or the might have belonged to the original building's layout.

Furthermore, we dare to suggest that also Grignon's category of 'everyday commensality' can to some extent apply to the regular communal *collegia* meals in general and to the PQ 2 soup kitchen in particular. Apart from the special occasions mentioned above, the *collegia* would have gathered for meetings and/or meals on a

[963] Coincidentally, this was exactly what happened during the 2014 Sagalassos excavation campaign, when the area was hit by an earthquake with a magnitude of 5.2 on the Richter scale and the epicenter 9 km ENE of Ağlasun. Despite the limited damage, the weary population, apprehensive for heavier shocks, spent the night in gardens, streets and squares.

[964] It is not possible, however, to definitely confirm this claim. It cannot be excluded that the event took place within the normal, complete setting of the building and that the floor was only later dismantled, shifting the food remains while moving about throughout the rooms. This might also explain the more dense concentration of the finds along the walls. Nevertheless, one would expect a lot more damage to occur among the remains and to find far less broken, but complete vessels 'in anatomical order'.

[965] Smith 2003, 87-125.

[966] It is indeed tempting to believe that any opportunity could have been a good pretext for feasting. "*Quand un collège acceptait un legs à condition d'honorer un dieu, l'empereur ou son patron, ou bien à charge d'entretenir la tombe d'un étranger, j'imagine qu'il y voyait surtout l'occasion d'un gai festin et le moyen de passer une journée dans une cordiale intimité*." (Waltzing 1885-1900, Vol. 1, 323-326). Indeed, even commemoration of the dead was merely an excuse for a good party, according to Keith Hopkins (1983, 214). This is echoed more recently by John Donahue: "[…] *to eat and drink well among pleasant company seemed to strike at the very essence of what a* collegium *was all about.*" (Donahue 2004, 85).

[967] Ascough 2008, 40.

regular, typically monthly (10/year) or bimonthly (5/year) basis.[968] The soup kitchen should certainly not be understood as a daily or even weekly food service, for which there are no indications in ancient sources. However, the regularity of these 'events', their fixed dates on the calendar and the simplicity of the meals – the soup/broth kitchen at PQ 2 or the sardines, bread and wine known from written sources (see earlier) – contrast with the exceptional occasions for actual feasting and would justify an identification as an 'everyday' happening. Apart from the core family, Grignon also actually mentions "*the usual circle of colleagues*" as a background for 'everyday commensality'.[969] It is far less likely that these kinds of meals were transgressive; these meals were only meant to serve the *collegia* members and would not have been appropriate to accommodate 'superior' invitees.

The remarkable homogeneity of the assemblage suggests an enforced level of equality among the members partaking in the event: there are no utensils among the finds that stand out in quality, decoration or value (admittedly, it is also more unlikely that more valuable items would be left behind in the dump). We know from ancient sources that equality was acclaimed within most religious and funerary associations, which were in general open to citizens, freedmen as well as slaves who were granted permission by their masters.[970] In fact, it can be stated that while *collegia* would certainly promote relationships among peers, it would at the same time confirm and secure the existing hierarchy.[971] Most *collegia* were depending on financial injections from elite patrons for the funding of their activities and accommodation. In return they would honour their beneficiaries with banquets, statues and inscriptions, reinforcing the status of the latter.[972] Seemingly in contradiction to their propagated equality, we also learn from the ancient sources that the activities of the *collegia* were organized in a strictly hierarchical manner, with several well-described functions and positions (host of the feast, master of the cult, secretary, attendant, master of sacrifices, *etc.*) that held sway over the other members.[973] It seems that competition was to some extent inherent in *collegial* organization, but mainly to be understood as a struggle for status among the members themselves.[974] A certain level of competition within these groups could be voiced by the seating arrangements[975] and by – as archaeological finds suggest – in a spectacle display of valuable personal items.[976] However, the least we can say is that the events attested at PQ 2 do not show any indications for inequality among the members participating in the event.

Apart from the social composition of the *collegia*, also the discussion of the absence or presence of women at symposia and banquets is a hot topic and open for debate. Once again, the evidence is drawn almost exclusively from ancient texts and iconography, so any archaeological complementary data would contribute to the discussion. Generally it is suggested that Romans were more lenient towards allowing women to wine and dine with them at communal events than Greeks, while there is affluent data available that there never was a

[968] John Donahue mentions five annual feasts for the college of Aesculapius and Hygia in honour of a female sponsor (Donahue 2004, 40). Ilias Arnaoutoglou describes the abandonment of a restrictive edict on *collegia*: "[...] *the formation of cult groups was permitted for people of limited means, on condition that there was not more than one meeting a month*" (Arnaoutoglou 2002, 31). Dennis Smith cites a.o. monthly communal banquets for the followers of Epicurus (Smith 2003, 58), the habit for Roman funerary *collegia* to meet once a month at banquets (*Ibidem*, 96), monthly gatherings for the Society of Diana and Antinous Worshippers (*Ibidem*, 98), montly banquets for the Guild of Zeus Hypsistos (*Ibidem*, 106) and regular monthly meetings of the Athenian 2nd century AD Society of *Iobakchoi* (*Ibidem*, 112).

[969] Grignon 1991, 27-28.

[970] Bollmann 1998, 28. This in contrast to the Greek World, where it is thought that only the freeborn were allowed to join associative clubs (Scheid 2011, 538).

[971] Perry 2011, 512: "[…] *collegial association may have been a tool, not created but ultimately wielded by the elite, in order to organize and control a potentially restive urban population, engendering loyalty, of a sort, in the process*."

[972] *Ibidem*, 509.

[973] Smith 2003, 99-101: *e.g.* the *quinquennalis* (leader of the central ritual), the *scriba* (secretary), the *viator* ('summoner') and the *magistri cenarum* ('masters of the feast'); Toner 2009, 108.

[974] Perry 2011, 503.

[975] Katherine Dunbabin and William Slater mention how "*According to the principles prevailing in antiquity, collegial banquets are supposed to be models of equality, yet not only is it accepted that pride of place in seating is highly regarded in all society, but paradoxically honours may be awarded to benefactors by the members of an association, so entrenching inequality in their banquets*" (Dunbabin & Slater 2011, 438). John Donahue goes even further by stating that "[…] *the sharing of food remained perhaps the most powerful of all constructs for sharpening the distinctions of class and status that typified Roman social relations*" (Donahue 2004, 42).

[976] Dunbabin & Slater 2011, 450.

standardized practice that was upheld across geographical and chronological borders.[977] The presence of women at communal banquets and cultic rites inherent to associative life has been confirmed in the form of so-called flute girls (often with the associated subtext that they would also offer sexual services), wives and daughters of club members, *matres,* elite *patronae*, *etc.*[978] There certainly were all-women *collegia*[979], but it is less clear whether women and men could be co-members within the same *collegium*.[980] Encountering bone hair pins and needles within a closed assemblage of finds associated with a single-event banquet might be an indication that women were indeed present among the participants. The hair pins (and even more so the needles?[981]) might suggest the women were wearing quite intricate, festive hairdos. Nevertheless, even if this association between bone pins and presence of women at the banquet is right, it does not tell us anything about the relationship between these women and other members of the club or about their possible ties with the *collegium* itself.

In any case, the assumed equality among the participants, the location of the venue and the size of the event are arguments for an associative event rather than for an activity organized by a private family or a banquet sponsored by the municipality (which is more likely to take place in public spaces in the city centre). Since we cannot draw information from inscriptions, figurative decoration or statuary, any possible identification of the group(s) that frequented the *schola* remains highly speculative. There are several indirect indications, but since none of them are conclusive, the spectrum of possible associations is large. Burial clubs, for example, would logically be located near to or within the suburban *necropoleis*, where they had immediate access to the burial grounds.[982] In the case of the PQ 2 *schola*, the large enclosure (?) to the west, with an identical orientation, might in fact be a burial plot (see § 6.5.3).[983] Also *collegia* dedicated to foreign deities (especially Mithras, Isis, Serapis and Bacchus/Dionysos) would have their seats in the *suburbia* (see § 6.5.2). And finally it is tempting to link the building with an association of potters, who after all were the most likely professional group to form a sizeable, lasting *collegium* in the Eastern Suburbium. Professional *collegia* could be formed "*in case sufficient critical mass in craft production was reached*", in the words of Jeroen Poblome.[984] That does not exclude that also smaller and/or less affluent groups of artisans could have formed their own associations and would have gathered for social and religious celebrations, but rather that only larger organizations would have been able to play an actual economic role[985] and to substantiate their existence in the form of permanent club houses. For an association

[977] There appears to be a discrepancy between the evidence derived from texts, which gives little indications for the presence of women at Roman banquets, with segregated dining by gender being the norm (Donahue 2004, 22, 48, 139-141), while the iconographic evidence seems to show that it was much more common for Roman women to take part in banquets than for Greek women to join in symposia (Dunbabin 2003, 22-23, 67-68). Both do agree on elite women acting as benefactors of banquets and on the presence of women as entertainers, prostitutes and servants at these events. One specific text fragment (a speech of Cicero), in which a Greek host invokes tradition to reprimand his Roman guests who want the host's daughter to join the feast (Dunbabin 2003, 23), show that Roman did in fact have a different attitude on the matter. There are also accounts of Ovidius, *e.g.* describing men and women singing, drinking and dancing in couples in a grove near the Tiber, celebrating the *Saturnalia* together and mixing at the circus races (Donahue 2004, 39, 247 Footnote 18), which implies that mixed celebrations were anything but exceptions in Roman times.

[978] Smith 2003, 91-93; Perry 2011, 507; Scheid 2011, 540; Dunbabin & Slater 2011, 448.

[979] Dunbabin 2003, 23.

[980] An inscription erected by the Association of *Orgeones* at Athens in particular raises the possibility of women and men to be members in the same club and take part in the same activities. The discussion rages mainly on whether to translate the term '*gynaikes*' as 'wives' or 'independent women' and whether the term '*eleuthepai*' should be understood as 'respectable women', 'independent women' or 'women from noble birth' (Smith 2003, 92-93).

[981] See Footnote 940.

[982] Hopkins 1983, 214; Van NIjf 1997, 43; Smith 2003, 101-102, 104; Donahue 2004, 40. It should be mentioned that – even though as an observation it seems perfectly reasonable – none of these authors offer evidence fort his claim. They are probably repeating earlier scholarly work.

[983] Keith Hopkins mentions that the *collegia* meals "*often took place in banqueting rooms built above or adjoining their collective tombs*" (*e.g. CIL* 10.2015) and that in many cases the dining hall was indeed built close to the burial plot of the club members (Hopkins 1983, 214). Onno Van Nijf refers to how "*individual epitaphs and tombs were often found on plots of land or in tomb complexes owned or maintained by private associations.*" (Van Nijf 1997, 43).

[984] Poblome in press.

[985] *Ibidem*: "*In New Institutional Economics terms,* collegia *could also represent a so-called 'private-order enforcement network', representing an alternative organizational form next to the market and the firm. The entrepreneurial members preferably closed contracts for goods and services within such networks, not because such was necessarily cheaper – on the contrary, network membership will have represented some additional cost – but mainly because the concerns for maintaining individual professional reputation and mutual respect proved a dependable guarantee for the execution of the contract, in accordance*

consisting of non-elite members, the erection of a relatively monumental structure serving the odd activity must have been an investment only the more affluent *collegia* could have afforded by themselves. A *schola* might of course have been erected under the tutelage and with funds of (an) elite benefactor(s), but it is also possible that several associations made use of a communal building that could be rented for all kinds of events.[986] The location of the PQ 2 *schola*, apparently as part of a larger complex of monumental buildings, adjoining the theatre and along a main traffic axis and at a conspicuous setting on the outskirts of a town; a textbook location for a *schola*.[987]

Water plays an important role in Greek symposia and Roman banquets[988] and fountains could be part of the setting, mostly in the gardens adjoining the banquet rooms, but sometimes even within the dining halls (**Figs. 7.75**-**7.76**).[989] Katherine Dunbabin explains this from a tendency to integrate a natural element into the civilized setting of the *convivium*, the symbol of *urbanitas*. Or in other words: the outdoors incorporated into the indoors. Similar conclusions can be drawn from wall paintings and mosaics in banquet halls depicting outside picnic scenes.[990] This is why we should try to understand the relationship between the fountain basin and the *schola* as a multi-roomed banquet hall. Water was essential for various aspects of the associative life, both as an attribute in cultic-symbolic sense, in an aesthetic sense as well as for practical matters: ritual cleansing, washing of hands, drinking, heating of water, mixing with wine, cleaning the floor, *etc.*[991] The specific layout of space 4, with the main entrance in the south and the passageways to rooms 2 and 3 in the north, meant that the basin could never have served as the central piece of a *triclinium* setting in this room. However, seeing the importance of water in many aspects of communal associative life, it would make sense that they would have kept the fountain basin operational, even if the *schola* indeed underwent significant changes in both its layout and purposes. As mentioned above, there are strong indications that the fountain basin was still kept in use after the building was initially extended towards the south. In the subsequent phase – which might have followed relatively shortly after the extension – the water supply was certainly cut off with the construction of additional dividing walls in the northern half of the *schola*. But also in that case the 'fountain basin' might still have functioned as a simple 'basin', where water was brought in by hand. It is also possible that – as was the case in the El Ruedo *villa* – a new lead water supply system was installed, which would certainly have been recuperated when the floor slabs were removed. However, there are no indications for such an installation in the surrounding walls and, as mentioned above, the traces of abrasion on the top of the ashlars of the basin's substructure rather suggest that the remainders of the dismantled fountain basin were incorporated in the floor (**Fig. 7.59**). Damage on the edges of these ashlars might even be explained by futile attempts to dislodge the strongly fixed ashlars the same way as the floor slabs.

with the clauses of good faith typical for locatio-conductio type of agreements." The economic value of professional *collegia* is generally weighed against that of medieval guilds, with the *collegia* ending up depreciated to the point of irrelevance. However, it should be clear that *collegia* "*may have been able to curtail markets on a local level by excluding outsiders and fixing prices at a favourable level for themselves*" (Verboven 2011, 189) and that they "*acted as representative and lobbying agencies*" (*Ibidem*, 191).

[986] Ascough 2008, 34: associations were known to hold meals in the open air or in rented spaces (such as *tabernae*); Verboven 2011: epigraphic sources give us occasional glimpses of *collegia* owning or leasing productive property; Dunbabin & Slater 2011, 458: "*Only the wealthiest of these associations would be able to construct their own club rooms, and we should assume that facilities for major regular banqueting were improvised in rented space, or in temples or basilicas, as well as in private houses, not only in dedicated buildings*."

[987] Bollmann 1998, 156-179; Verboven 2011.

[988] Dunbabin 2003, 42, 86, 95, 169-170.

[989] This was for example the case in a building in the Agro Murecine area outside Pompeii: "[…] *provision is made for the sort of water effects with which the Romans loved to accompany their parties: a central jet in the middle of each circular table and more jets of water playing into a channel around the edge of the couches*" (Dunbabin 2003, 95). Another example comes from a *villa* in El Ruedo (Baetica): "*The effect was enhanced with the play of water: a* nymphaeum *in the back wall of the room behind the couch, with water running to a basin in the centre of the couch and from there to a basin in the peristyle beyond*" (Dunbabin 2003: 169). For a detailed study of the El Ruedo *villa*, see Vaquerizo & Noguera 199, 60 ff.

[990] Dunbabin 2003, 172-173.

[991] Dunbabin 2003, 99.

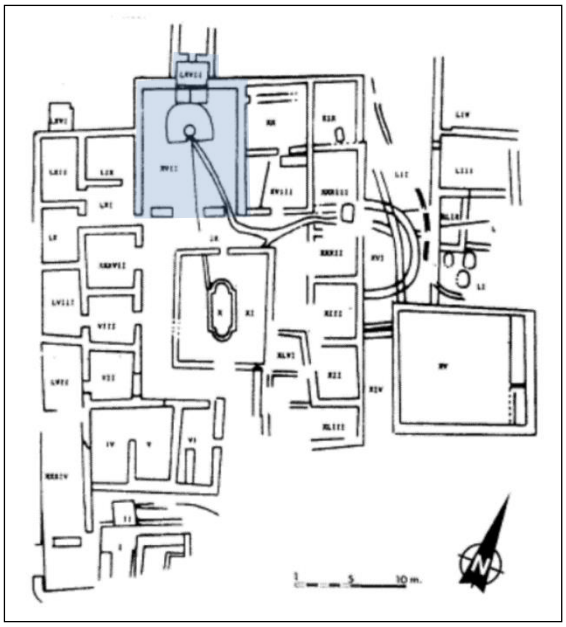


Fig. 7.75. Simplified excavation plan of the Roman *villa* of El Ruedo (Baetica), with the *triclinium* indicated in blue. The water from the basin in the *triclinium* was led through terracotta pipes to a larger basin in the central *peristylium*. From Vaquerizo & Noguera 1997, 38 Fig. 6.

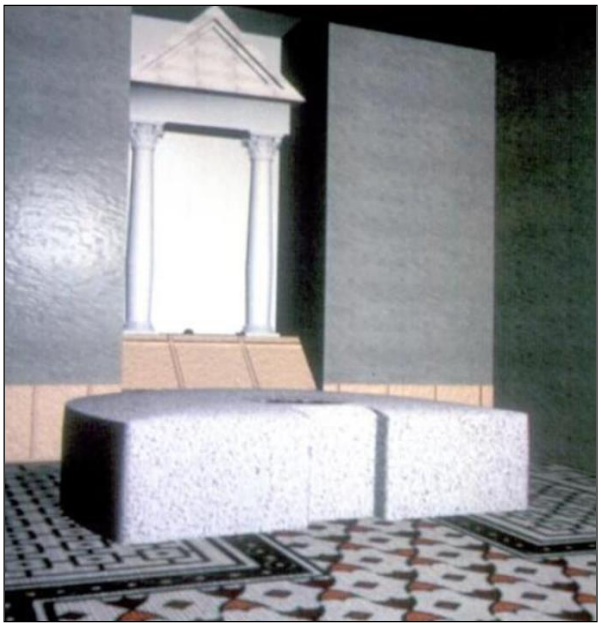


Fig. 7.76. Infographical recreation of a part of the *triclinium* in the *villa* of El Ruedo: the back room with the *nymphaeum ad aedicula* and the preceding fountain basin within the *stibadium* (sigma-shaped *triclinium* setting). From Vaquerizo & Noguera 1997, 71 Fig. 21.

Despite the chronological and geographical gap, the find context of Khirbet Qumran mentioned above seems to provide a valid parallel for the study of the crockery within a seemingly similar communal setting. At this Hasmonean site a 22 by 4.5 m large meeting-hall was excavated that was identified as a 'refectory' based on its layout and associated finds.[992] The meeting hall's period of use (Period 1b) was dated to the later 2nd century and 1st century BC and appears to have ended very abruptly (the excavator proposes a 31 BC earthquake).[993] The meeting hall was furnished with an ingenuous water infrastructure that, combined with a slightly sloping floor, would have allowed for a regular and easy cleaning of the floor, suggesting that such would have been a prerequisite. The crockery that belonged to this building was encountered 'on the shelf', stacked away in an annex room awaiting use in the main room. The pottery must have been in use around the third quarter of the 1st century BC. Also in this case, the crockery consisted of a limited amount of shapes, which were all represented in high numbers: 21 small jars of two different types, 38 dishes, 11 jugs and 75 beakers were encountered in various parts of the room (**Fig. 7.77 b**). But the bulk of the crockery consisted of 210 plates piled against the pilaster and 708 bowls arranged in piles of a dozen each in the east of the room (**Fig. 7.77 a**).[994] The excavators recognized that this was not a storeroom for the whole community, since most contemporary shapes that were encountered throughout other parts of the site were not represented in this room. Neither could it be linked with a potter's atelier. The ceramic assemblage indeed comprised everything needed for serving and consuming food and drinks to large groups of people. The amount of pottery obviously allowed for a group even too large to fit into the meeting hall. It might be that certain activities entailed the whole community to take part, which could have taken place not only in the 'refectory', but in any additional fitting location.

An alternative theory is that the stash might have been built up intentionally with the knowledge that many vessels would not return after the meals. Many similar, broken vessels, some still containing faunal remains have indeed been encountered by the excavators in the 'free', open spaces in between and around the buildings of Khirbet Qumran. De Vaux and most other researchers have tried to explain these deposits as revealing a religious preoccupation, by comparing the context with animal burials from two Jewish *necropoleis*, despite the fact that the Khirbet Qumran assemblages are not funerary in nature. Attempts to recognize religious action in the

[992] De Vaux 1973, 11.
[993] De Vaux 1973, 5, 23-24.
[994] De Vaux 1973, 11-12.

deposits has led to very divergent hypotheses: K. Schubert and J. Kaplan, for example, claim that the faunal remains would have been buried because of their blessed, consecrated nature (as remains from ritual sacrifices), while J. van der Ploeg retorts they were buried exactly because of their impure nature. When we look at the descriptions throughout the text, however, we only find arguments that seem to point to a complete randomness of the deposits. First of all, these remains of festal meals have been found "*with varying frequency in almost all the open spaces*" of the settlement (where they seem to be concentrated along the walls bounding those spaces). Secondly, bones are discarded either alone, between sherds, underneath plates or in intact jars, and in the majority of cases in association with sherds from several jars, pots, bowls, lids or plates; anything but the result from a common, standardized practice. Thirdly, the remains are barely covered by soil and in some cases even "*seem to have been laid on the ground*". Fourthly, E. M. Laperrousaz suggested that the vessels were abandoned in the middle of the feasting event, as if Khirbet Qumran was under a sudden attack. Even though De Vaux finds no real grounds to support this hypothesis, it is another argument against a possible deliberate, religious origin of these contexts.[995] Finally, F. E. Zeuner, who studied the animal remains encountered at the site, noted that "*if this were required by a religious rite (about which nothing else is known) the collection of the food remains was carried out in a very careless manner*".[996] This final argument is even left out by De Vaux.

The impression prevails that the researchers of Khirbet Qumran painstakingly try to avoid interpreting the deposits as resulting from the rather indiscriminate dumping of meal remains inside and around the settlement. The observation that these contexts were more numerous along the walls actually point to a minimum effort to keep public spaces and streets open and accessible by throwing or brushing waste aside. Indeed, evidence for the 'poor' way[997] in which ancient societies dealt with their waste disposal has been explained in many archaeological excavations as signs for a city in decay. In the case of Pompeii, for example, this point of view has been debunked only in the last few years.[998] Most evidence, on the contrary, seems to indicate that it was rather common in Antiquity to accumulate waste in ruined buildings, in cul-de-sacs and on street corners. This was even more the case immediately outside the city walls, where middens would pile up in (abandoned) burial plots, in exhausted quarries, against the city walls, but also within living contexts, on the floors of workshops, *etc.* (see also § 11.2.2).

There are clear parallels to be drawn between the Khirbet Qumran and Sagalassos PQ 2 'banquet halls': the homogeneity of the pottery assemblage, consisting entirely of a very limited amount of serving and consuming vessels to cater for large groups, and the apparent habit of discarding the vessels together with the food remains, rather than to return them in order to be reused. It is not certain that this was a habit throughout all types of meals/activities, but the apparent surplus present at the Khirbet Qumran site, and the completeness of many vessels encountered in the PQ 2 dumps suggest that it was not only the accidentally broken pottery that was discarded as waste. The low quality of the PQ 2 assemblages might point in the same direction. Ceramic bowls and dishes could be produced easily and cheaply and might have been considered as disposable tableware, at least at some (special) events. Maybe parallels can also be drawn from the deposits in pits of intentionally broken and burnt earthenware in funerary contexts at site F of Sagalassos (see § 6.4.4). However, the reason behind the deposition of these festive remains might have been rather different: casual discard, concentrated at certain spots (Khirbet Qumran, dump against eastern wall of the PQ 2 *schola*), ritual deposition as an abandonment sacrifice (dump within PQ 2 *schola*) or taboos assocatiated with Totenmahl remains (site F, see § 6.4.4).

[995] De Vaux 1973, 12-14 and Footnote 3.
[996] Zeuner 1960, 30.
[997] 'Poor' in this case carries a derogatory meaning, which should be understood in comparison with current 'western' standards in sanitation.
[998] Emmerson 2012.

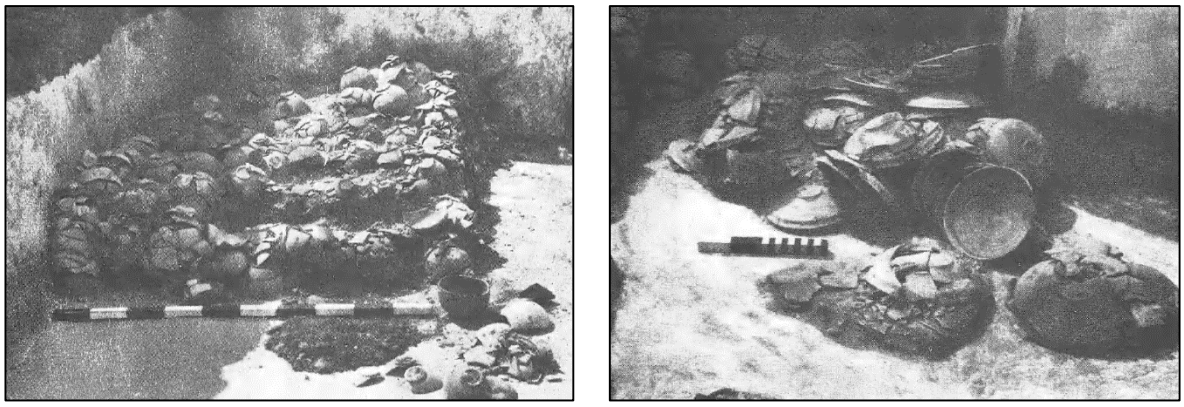


Fig. 7.77 a/b. The Khirbet Qumran excavations yielded a.o. stacks of bowls (left) and dishes (right) encountered in a room annex to the so-called 'refectory'. From De Vaux 1973, Plate X.

7.5.3 The *schola* abandoned

The communal banquet that resulted in the dump within the building also seems to have marked the end of communal use of the building. The banquet dump was immediately covered with a thick layer of soil containing contemporary waste, which would have created a new, higher walking level within the building. There are no indications that the later walking level(s) were ever substantialized into stone or brick; they consisted of mere beaten earth. There are no indications for communal activities within the building after the 3rd century AD, even though there are still interventions within the building that show that the building was not completely abandoned.

One extra inner dividing wall was installed after the abandonment banquet, dividing room 2 into a northern and southern half. As can be seen in **Fig. 7.78**, the wall is constructed on top of the dump layer (L181) and abuts both the western outer wall of the building as well as the inner wall separating room 2 from rooms 1 and 3 (L101). The wall is slightly more narrow (0.40-0.45 m) and built in a less regular fashion than the other inner dividing walls. This wall would have made access to the northern half of room 2 impossible, but this was absolved through the partial dismantling of the northern half of wall L101 and the already mentioned increment of the floor levels throughout the building. By doing so, the northern half of room 2 could be accessed from room 1, with the remains from wall L101 serving as a threshold between the two rooms (**Fig. 7.79**). This means that the original northern entrance to the building was still in use. After dismantling wall L101, a new ramshackle wall was built on top of its remains, but a door opening was kept open. No activities could yet be associated with this phase of use.

Subsequent activities associated with the building (**Fig. 7.79 b**), among which the closing of the northern entrance, the dismantling of several walls and the construction of several temporary features will be discussed in the next chapter (§ 8.5.1).

Fig. 7.78. View from the south on the wall (L104) dividing the northwestern room 2 of the *schola* into two separate spaces. This wall is a later addition to the building, postdating the deposition of the find assemblages, while the layer containing these assemblages abuts both the wal separating room 2 from rooms 1/3 (L101) and the western wall of the building.

Fig. 7.79 a/b. Some 'post-*schola*' interventions to the PQ 2 building: a) room 2 being subdivided and a new access created from room 1; b) the closing of the northern entrance and dismantling of several walls were later interventions (see § 8.5.1).

7.5.4 Continuity of other communal buildings

It has already been established that in Early Roman Imperial times a complete quarter with more monumental structures was erected in the southwestern quarter of the Eastern Suburbium: apart from the *schola* at site PQ 2, we also suggested the presence of a possible *campus* at site G (see § 6.5.1) and recognised a large rectangular multi-room building (baths?) immediately southeast of the (later) PQ coroplast workshops (see § 6.5.3). Moreover, the similarities in orientation, location and monumentality (size and regularity) of several other large structures, which are only known from geophysical surveys, suggests that there are other yet to be identified monumental features west of site PQ 2 and south of site G. In order to distinguish from private monumental architecture, which can also be found in a funerary context throughout the *proasteion*, we apply the term 'communal' to these structures. The observations we made at sites PQ 2 and G seem to justify the use of this term. Even though this cannot be applied unquestionably to the unexcavated contexts within the same quarter, other proposed purposes for these structures (storage building, burial compound, *etc.*) also befit the term 'communal'.

The complex at site G, which was erected at the end of the 1st or beginning of the 2nd century AD, must have been in use throughout most of the Roman Imperial times. The datable material point towards a 4th century AD date for the abandonment of the complex, based on the find assemblage encountered in the dumps topping the occupation levels inside the complex (see § 8.5.3). There are no specific activities that can be linked with this period of occupation. This is certainly due to the limitations of the five test trenches dug across the large complex and due to the post-abandonment dismantling of large parts of the standing structures, but this might also be explained by the passing and volatile nature of much of the proposed activities on the site: festivals, *panegyreis*, cattle markets, *nundinae*, gatherings of all kinds, *etc.* Apart from the existing infrastructure, additional amenities would most likely have consisted of movable structures in perishable materials (see § 6.5.1). Similarly, it would have been much more difficult to identify specific activities at the PQ 2 *schola* if the leftovers of the communal meals would not have been dumped within and immediately next to the premises. It is not a coincidence that the identification of these types of extramural infrastructure in other Mediterranean contexts has almost exclusively been done on the basis of inscriptions. This quarter of the Eastern Suburbium has only provided us with (a lot of) circumstantial evidence, but through the incorporation of all these data in a well-studied wider area strong cases can be proposed.

It is more difficult to assess the occupation span of other structures within this communal quarter. The PQ coroplast excavations could determine that the small annexes north of the large rectangular building, which partially underlie the later workshops, were already backfilled in the 2nd century AD. This does not necessarily apply to the main building itself, inside which no excavations have taken place. The geophysically attested presence of kilns in the eastern part of this building clearly suggests that the structure went out of use at some point[999], but we cannot attribute this to a specific century. There is even less chronological information available with regards to the structures west of site PQ 2 and south of site G. Based on the development history of the communal quarter in particular and the wider *proasteion* in general, an Early Roman Imperial date can be proposed for their erection and some point in the 3rd or 4th century AD as most likely date for their abandonment as communal structure.

7.5.5 The honorific column south of the Theatre

The Theatre itself does not take up a separate topic within this thesis, even though it arguably can be considered as a part of the *proasteion*. This spectacle building is located extramural and immediately adjacent to the Eastern Suburbium. On the other hand, it is clearly oriented towards the city centre and the Eastern Residential Quarter and was also mainly accessible from those quarters. In fact, the theatre would most likely not have been visible from the Eastern Suburbium itself, apart maybe from the upper section of the back wall of the *cavea*. The siting of the Theatre would have relatively little influence on the further development of the Eastern Suburbium, apart

[999] It is highly improbable that the order of events is reversed: workshop remains supplanted by a large monumental structure are unlikely to show up this clear on the geophysical survey.

from the obvious link between the Theatre, the large limestone quarry in the southeast of the *proasteion* and the (quarry) road connecting both. The Theatre of Sagalassos is currently the subject of ongoing research and the documentation will in due time be published in its own merit.

On the other hand, the freestanding column built immediately south of the Theatre constitutes the only landmark that was visible from both the Eastern Suburbium and the city centre (**Fig. 7.80**). Not a lot of data have been collected on this column thus far; all our knowledge is based on field surveys.[1000] Four fluted column drums are partially visible at the surface. Based on their diameter, the height of the honorific column has been estimated at *c.* 12 m, which would make it the largest known freestanding column in Sagalassos (*c.* 2 m larger than the four honorific columns on the corners of the Upper Agora). The stylistic characteristics of the column suggest its erection in (Early) Roman Imperial times.[1001] The builders made use of a small, natural limestone outcrop, of which the top was levelled in order to create a platform for the column's basis. The vertical face of the natural outcrop, partially repleted with carved limestone blocks, would have contributed to the monumentality of the column.[1002] The column stood on a pedestal *c.* 0.95 m high on top of a podium, which in turn set on a platform carved in the natural bedrock measuring *c.* 3.60 by minimum 1.75 m. The diameter of the bottom of the columns' base measures 1.75 m. One of the fluted column drums could be measured to have a diameter of 1.14 m at the bottom and 1.10 m at the top

It has been suggested by Marc Waelkens that the column might have carried the statue of the person who financed the (original?) Theatre's construction, while Veli Köse considers it to be a funerary column similar to other examples known from the *territorium* of Sagalassos and from elsewhere in the Roman Empire. Köse furthermore recognises a chronological and architectural development analogue with other monumental tombs of the *necropoleis* of Sagalassos: *i.e.* small temples, *aediculae* and honorific columns were being erected in the city centre in Early Roman Imperial times, which would be subsequently copied in the funerary architecture of the *necropoleis*.

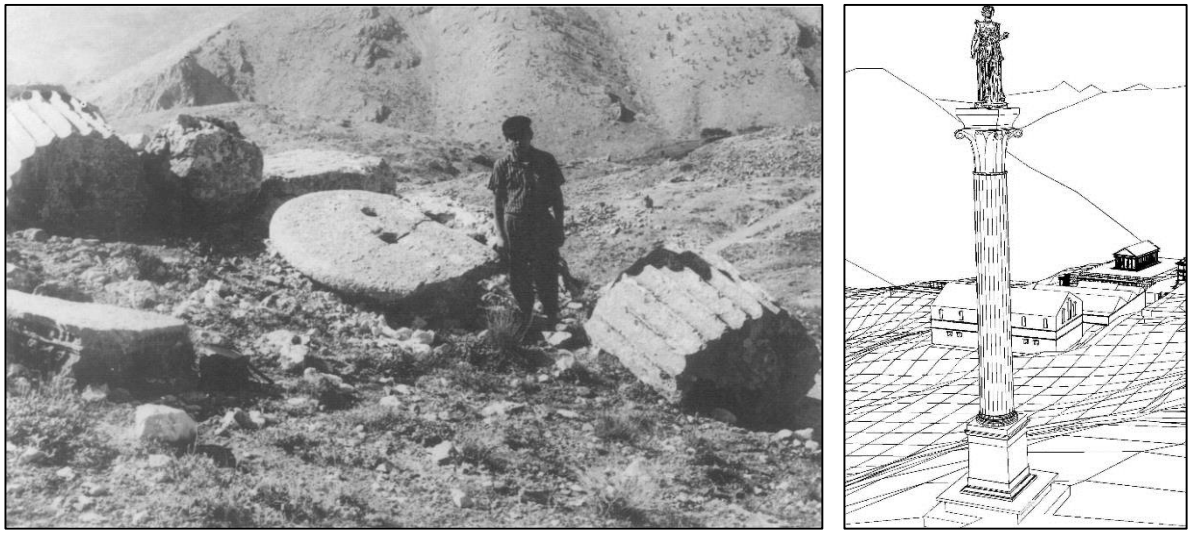


Fig. 7.80 a/b. The honorific column south of the Theatre: a) 1968 picture of the now almost completely buried remains of the column (photographed by N. Asgari, from Vandeput 1993, Plate XXXII a); b) hypothetical reconstruction (drawing by J. Legrand & P. Legrand).

[1000] Femke Martens was the responsible for the extensive 1999 survey of the Eastern Residential Quarter, which included the area of the honorific column as well.
[1001] Vandeput 1993, 198.
[1002] Martens 2004, 206-207; Köse 2005, 125.

8 LATE ROMAN

From the second half of the 4th century to the middle of the 6th century AD (*c.* 350 – *c.* 550 AD)

8.1 Introduction

This chapter coincides with the Sagalassos Red Slip Ware (SRSW) phases 7-8. For an overview of the relation between different chronological referencing systems, see **Tables A-B** in the 'General Remarks'.

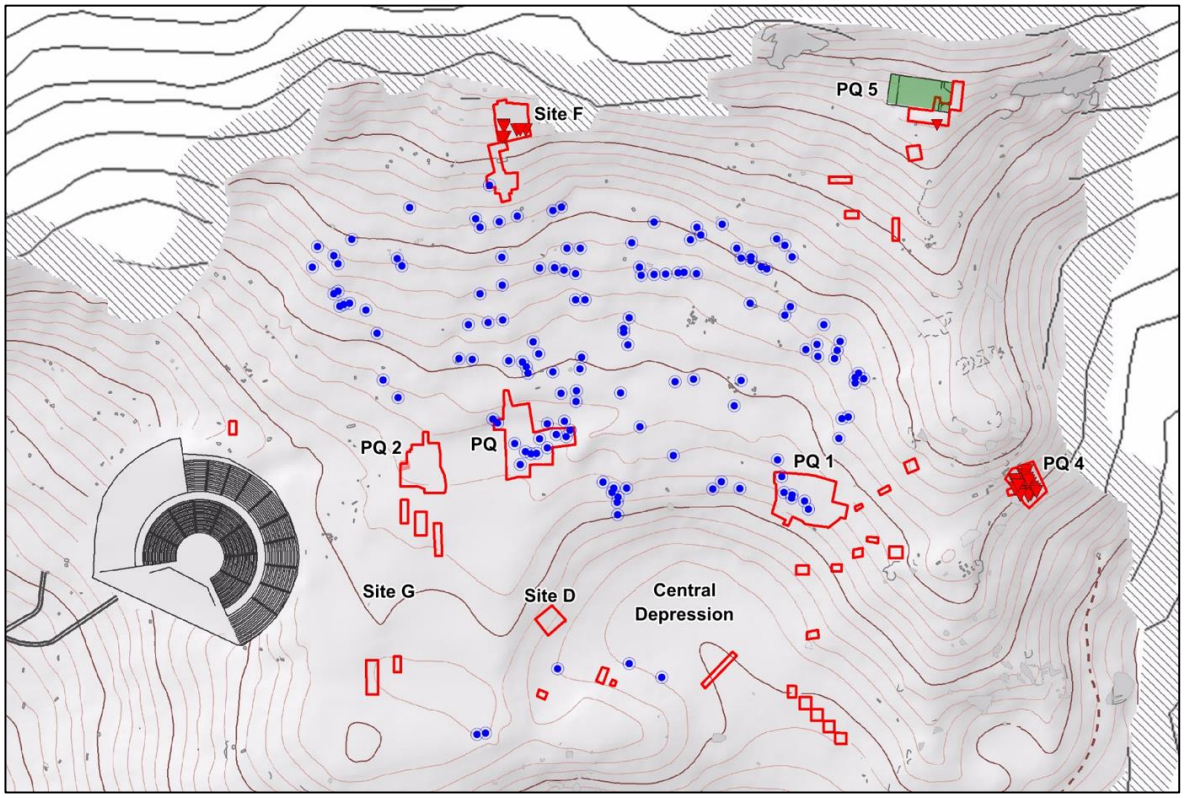
This chapter will again cover the infrastructural, (see § 8.2), artisanal (see § 8.3), funerary (see § 8.4) and – lack of – communal (see § 8.5) presence within the Eastern Suburbium. The overarching topics of terracing, road and water infrastructure are considered as covered by our survey of the data in respectively § 5.2, § 6.2.1 and § 6.2.2, which is why we will limit ourselves in this chapter to a short assessment on the presumed continuity of these features. The artisanal paragraphs cover the Late Roman east slope workshop at site PQ 1 (see § 8.3.1), the coroplast workshops at site PQ (see § 8.3.2) and will discuss the development of the artisanal quarter during Late Antiquity (see § 8.3.3). The paragraphs on the funerary culture consider the final phase of use of the family tombs at site D and site F (see § 8.4.1), the individual tombs at site F (see § 8.4.2), the *naiskos* tomb at site PQ 1 (see § 8.4.3) and the inhumations inside the PQ 4 burial compound (see § 8.4.4). The nature of the communal presence within this period is very diverging from the preceding periods. There are no indications that the southwestern quarter still served communal purposes (see § 8.5.1 and § 8.5.2), while at the opposite end of the Eastern Suburbium a church is being erected towards the end of this period (see § 8.5.3). In addition, we will also highlight the ongoing process of waste management within this chapter, as it will become obvious that by this time waste dumps would play an important role in the organisation and layout of the suburban texture (see § 8.6).

Our data for this chapter is derived from most of the excavation sites: the workshops at site PQ (coroplast) and PQ 1 (east slope), the funerary remains at sites D, F, PQ 1 and PQ 4, the (post-occupational) use of the area occupied by communal architecture in the southwest quarter of the *proasteion* (sites G and PQ 2) and the newly established site in the northeastern corner (PQ 5). The absence of contemporary remains at site PQ 3 and the apparent abandonment of the site G complex, east slope workshop (site PQ 1), together with the depletion of the *schola* (site PQ 2), should be discussed within the wider topic of land use and competition for space. While some sites appear never to be structurally reoccupied, the geophysical survey data suggest that workshops started to usurp areas that were previously in use for other purposes[1003] (*e.g.* some of the eastern rooms in the monumental building southeast of the coroplast workshops and in the southeast corner of the site G complex). One activity that becomes an ever increasingly important factor in the competition for space would be waste dumping, both from local production waste, but more than likely also from refuse being hauled in from the city centre (see § 8.6). This time frame can in fact be understood as a transitional period, in which certain changes that would become more apparent after the 6th century AD have their roots. Probably the attested looting of various tombs throughout the quarter, possibly as early as the 5th century AD, should be studied in this light as well.

The data gathered from excavations are augmented with information procured by other disciplines. Specifically for this period we also draw on the results from field surveys, aerial photography, geophysical surveys (especially electric resistance tomography, seismo-magnetometry and ground penetrating radar,…), geochemical soil survey, physical anthropology, material studies and the study of boreholes collected from the Central Depression. This study is furthermore greatly indebted to the valuable work done by cartographers, geographers and geologists who studied and mapped the area in question.

[1003] It is very unlikely that the order of events would have been reversed: older kilns would very likely have been destroyed or damaged beyond remote sensing detection potential in the case of large-scale building projects such as the monumental building southeast of the coroplast. The fact that they show up very clearly on the geophysical survey, suggests that the structural remains of the kilns are relatively sound and most probably postdate the original use of the building.

As is the case with the other chapters of Part 2 of this thesis, the overarching discussions will be reserved for Ch. 10, in which the data presented in detail in these chapters can be reflected not only against the wider geographical and historical setting, but can also be understood in a more trans-chronological framework.



Map displaying the major sites and features mentioned throughout Ch. 8. The outlines of the excavated trenches are indicated in red, the church in shaded green, the kilns with blue circles and the inhumation burials with inversed triangles.

8.2 Infrastructure

The infrastructure within the Eastern Suburbium has been discussed in earlier chapters: see especially § 5.2 for terracing works, § 6.2.1 for the street network and § 7.2.2 for the water infrastructure. Both excavation results as well as geophysical data show how the terraces, roads and major water channels, once laid out, formed a relatively rigid and continuous framework into which the events and activities unfolding in the *proasteion* had to adapt. Since the infrastructure was essential for the ongoing activities, it is obvious that they must have been maintained over the centuries. There are also no indications for large-scale infrastructural interventions after Roman Imperial times.

However, this period will see the start of some changes to this infrastructural framework. First of all, with the abandonment and dismantling of the site G complex and PQ 2 *schola* (and possibly also the other monumental structures of the (semi-)public southwestern quarter), a large part of the *proasteion* became depleted. There are no indications for new structural interventions to immediately occupy the now vacant space. This might have had consequences for the circulation pattern throughout this quarter, with traffic less restricted by existing buildings. Indeed, we will notice in the next chapter how the Early Byzantine structural interventions in this part of the *proasteion* followed a completely different alignment and negated century-old thoroughfares. In particular, it seems that the main road leading up through the Central Depression and along the southern and western edges of the site G complex would lose its importance. There was an alternative bifurcation of this road, leading from the western slopes of the Central Depression directly into the heart of the artisanal quarter to the north, which might have gained importance once the (semi-)public buildings became derelict. The original, southwestern approach followed a more gradual, longer path into the Eastern Suburbium, which would have mainly been essential for the stone quarries. As established above (see § 6.4.2), the quarries were no longer operational after the 3rd century AD and this road might have already lost a part of its purpose, while possibly still serving heavy laden carts (supplying the artisans with clay and fuel) and herds of animals. In any case, the maintenance of a driveable road coming in from the east would not only have been an asset to the Eastern Suburbium itself, but also to the city centre below.

Similarly, the upkeep of the upper eastern aqueduct would have been even more important for the whole community. Since the ornamental use of water in the city centre appears to have been ongoing into Early Byzantine times[1004], it is likely that the city was still supplied by aqueducts at that time. The few stretches of the upper eastern aqueduct that could be studied (see § 7.2.2) did not provide us with conclusive information on when the aqueduct would have been abandoned or have become obsolete. From the visible remains, it is obvious that large parts of this aqueduct along rock faces have collapsed, rendering the water channel useless, but these collapses might be linked with the 7th century AD earthquake or post-occupational disruptions. There are several smaller built-up water channels within the Eastern Suburbium that might have served local needs. One such channel has been exposed at site PQ 3 (see § 7.2.2) and one at site PQ 5 (see § 8.5.3). The former channel was part of a street layout, and might have remained in use throughout the occupational history of the site.[1005] The latter one was probably constructed (shortly) before the construction of the church in the first quarter of the 6th century AD and still transported flowing water upon its discovery in 2013.

The smaller terracotta channels can be subdivided into two groups: the first group consists of waterpipes that formed part of the street network and that were probably (communally) maintained together with the streets. The second group consists of channels that served individual structures and private needs, such as communal buildings (*e.g.* the PQ 2 *schola*), ateliers (*e.g.* the PQ coroplast workshops) an funerary compounds (*e.g.* the

[1004] The Antonine Nymphaeum on the Upper Agora, for example, was repaired in the 6th century AD, when it was turned into a memorial monument for the Neon family. See Waelkens *et al.* 1997, 136-162 and Vandeput 1997, 385-404 (both in Waelkens & Poblome (eds.) 1997) for a detailed study of the fountain; the identification of a post-500 AD phase of repair on the monument is a later observation, however, and remains unpublished.

[1005] PQ 3 2012 internal excavation report by Elizabeth Murphy (a concise, Turkish version of this report appeared in the *XXXV. Kazı Sonuçları Toplantısı*). Murphy tentatively suggests a date in the first half of the 1st century AD for the abandonment of this channel, but this is not based on associated finds. It is possible, however, that the channel was no longer in use when the terracotta waterpipes were laid out along the same street in the first half of the 2nd century AD.

naiskos tomb). The second group would be more liable to local developments on these plots and could probably relatively easily be adapted to changing needs.

The most recent interventions that could be distinguished on the northern terraces of the Eastern Suburbium were burial practices dated to the 4th century AD (see § 8.4.1 and § 8.4.2). It is possible that those terraces on more elevated terrain gradually became engulfed in dumps (at least already from the 3rd century AD onwards) and shifting natural screes, making them increasingly less accessible. Terrace walls in the more central parts of the quarter were probably maintained as far as they served communal or private purposes. Both the terrace wall north of the PQ coroplast workshops, which supported an important east-west traffic axis, and the terrace wall north of the PQ 1 site, which served as the north wall of the consecutive workshops at this location, appear to have been in use into Early Byzantine times. Furthermore, the construction in the early 6th century AD of the church at site PQ 5, located at the highest accessible point along the eastern ridge of the *proasteion*, might have been preceded by the construction of an east-west oriented terrace wall along the northern edge of the construction site. However, the terrace wall itself could not be dated and it cannot be excluded that the wall far predates the construction of the church and originally served as a retaining wall for other structures at this eye-catching location.

8.3 Artisanal activities

8.3.1 The Potters' Quarter's PQ 1 east slope workshops[1006]

In § 6.3.2 we discussed the remains and layout of the earlier workshop at the same location, which was probably erected in Augustan times and which kept on functioning throughout Imperial times. The construction of the *naiskos* tomb on top of (a part of) this early workshop resulted in significant changes in the orientation and organisation of the atelier, but there is enough evidence to suggest that the pottery production activities did not come to a complete standstill. Based on the fill in the large, circular kiln 5 located within Space 3 (**Figs. 8.1**-**8.2** and **Attachment 4**) a new, Late Roman workshop was constructed towards the end of the 3rd century AD (and thus relatively shortly after the construction of the *naiskos* tomb). The complex was oriented more or less north-south. The ground plan of the building covered an area of 15 m east-west by 12 m north-south (totalling to a surface of *c.* 180 m²). The lower part of the walls of the complex consisted of mortared stone walls with middle to large sized limestones. The bonding had mostly disappeared, and was only noticeable in specific areas in a very weathered condition. The wall faces were originally probably finished with a mortar lining. Since most of the walls were preserved to a fairly horizontal level (maximum *c.* 1.20 m above walking level) and only few collapsed limestone rubble was encountered in the archaeological layers, the superstructure most probably consisted of mud brick, coated with plaster. The walls varied in width between 0.5 m and 0.8 m.

Fig. 8.1. Masterplan and aerial picture of the east slope workshop and the adjacent *naiskos* tomb. See Attachment 4 for more detail.

The 'entrance room' **space 1** (**Figs. 8.1-8.2**) measured 4.30 m by 2.60 m. The threshold of the entrance itself consisted of a broken and reused door lintel (1.8 m long and 0.5 m) wide (**Fig. 8.4**). Various holes were cut in the lintel to hold and close a double door, opening towards the inside of the room. The room opens into Space 2 to the north through a door opening containing again a reused lintel (1.2 m long and 0.36 m wide) that served as threshold and to which three small steps led. Probably upon abandonment of the workshop, a medium sized *pithos*, containing greenish Çanaklı clay (SRSW fabric 1), was smashed into the door opening. The 'entrance room' may also have provided access to the adjacent 'storage room' (Space 4), via an opening about halfway in its eastern wall. The layer identified as occupational deposits contained a mixture of 2nd to 5th century AD pottery, and coins dated to the end of the 3rd or 4th century AD. Along the west wall of Space 1 a bronze figurine of Hermes and a fragment of a bronze mirror were found.

[1006] The description of the Late Roman east slope workshop is based on the internal excavation reports (1999-2002) and preliminarily reports by Jeroen Poblome (Poblome *et al.* 2001; Poblome *et al.* 2002 b) and on the internal excavation reports by the author (2012-2013). The tombs were also concisely and preliminary published in the 2002 *Kazı Sonuçları Toplantısı* (Waelkens 2003, 215-216).

Fig. 8.2. Masterplan of the east slope workshops and the adjacent *naiskos* tomb, with indication of the places mentioned throughout the text. The remains of the Imperial workshop(s) are indicated in blue (light blue: Augustan – Early Roman Imperial; dark blue: Middle Roman Imperial), the *naiskos* and its surrounding *temenos* in red and the Late Roman workshop in green.

'Storage room' **space 4** measured 4.25 m by 2.25 m (**Fig. 8.2**). There is no other entrance than the one mentioned above. Since this room appears to have been largely closed off from direct sunlight and other climatic conditions, it may well have served as a storage room in which newly made pottery was allowed to dry under controlled conditions, before firing. No specific floor level could be identified. A feature built of tiles in the northeastern corner was removed in order to complete the plan of the room. This was most likely a badly preserved cooking set, which could not be dated nor stratigraphically be linked with the workshop remains.[1007]

'Working room' **space 3** measured 7.2 m by 2.8 m (**Fig. 8.2**). Its western wall was built into the flue of the anterior circular kiln 5 to a depth of 1.15 m. The room could only be reached from space 2, through a 1 m wide door opening in the northern part of the eastern wall. No lintel was preserved and no other marks indicated the presence of a door. Two short (1.2 m long) and low (0.25 m high) dividing walls were noted within this space, respectively in the southeastern corner and along the eastern wall. Both measured about 1.2 m in length. The latter division wall used the remains of the circular kiln as its foundation. The walls most probably delineated areas for specific work purposes. In the south two nearly complete medium-sized *pithoi* and one jug were found in combination to a patch of greenish Çanaklı clay (the clay was probably ready to be potted and was stored in medium sized containers). The potters may have used this area to prepare clay or install their wheel (for which there is no direct evidence in this room) and manufacture their tablewares. The northern part of the room was covered with a soft yellowish volcanic sand, which absorbs water very quickly and provides a firm, non slippery surface. This may be very compatible with the wet business of preparing or potting clay. The layer identified as

[1007] Personal communication with Jeroen Poblome.

an occupational deposit contained a mixture of 2nd to 5th century AD pottery and a collection of mostly Late Roman coins.

Space 2 (**Figs. 8.2-8.3**) is defined in the north by a terrace wall, 5.3 m in length and still standing 1.41 m to 1.95 m high and in the east by a 5.4 m long wall parallel to the *naiskos* tomb's *temenos* wall and in line with the east wall of space 4. As only one column support was discovered, this space may have been at least partially exposed to the open air (as is the case with space 5 containing Kiln 4 and with Kiln 2 in space 7, see below). The occupational layer within space 2 contained concentrations of blackish clay, grey ash and green Çanaklı clay. The finds consisted mainly of 5th century AD pottery. Three distinguishable patches of Çanaklı clay were noticed on top of the floor level of space 2, respectively along the terracing wall, in the northwest corner and along its west wall. The Çanaklı clay in the northwest corner enclosed a semicircular stone feature, possibly the installation of a potter's wheel. Similar arrangements have been recognised in space 6-7, along the *temenos* wall of the *naiskos* tomb, and inside the *temenos*, north of the *naiskos* itself. The feature in space 2 was associated with 2nd-3rd century AD artefacts and appears to have been destroyed along with other Early Roman Imperial workshop remains in order to make way for the Middle Imperial *naiskos*. The arrangement in space 6-7, however, abuts the *temenos* wall of the tomb, implying that the construction of the *naiskos* did not put a hold on the workshop activities.

Space 5 (Figs. 100 and 104), located in the northwest of the workshop, contains Kiln 4 (see further). The space measured 2.8 m by 3.6 m and was delimited to the north by the terrace wall, to the south by the northern wall of space 3. The presence of the kiln in the northwestern corner of the space establishes that the space was most probably open air.

Fig. 8.3. General overview of a part of the Late Roman east slope workshop, view from the northwest. Space 2 is located in the foreground, with the fluted column drum clearly visible. Behind it are the 'storage room' space 4 (central) and the 'entrance room' space 1 (to the right). Space 7 with Kiln 2 and the *temenos* wall of the *naiskos* tomb can be recognised to the left of the picture.

Fig. 8.4. Entrance towards the workshop, view from the southeast. An *osteothekos* fragment can be recognised below the north arrow.

Kiln 2 in space 7 (**Fig. 8.2** and **Fig. 8.5**) was located 3.5 m west of the enclosure wall of the *naiskos* tomb. The small circular kiln (1.05 m in diameter) had a central support and radially placed arches sustaining the kiln floor, four of which were preserved (0.55 high and with a span of *c.* 0.4 m). Both the arches and the central support were built of brick as well and still covered with a mud plaster, which had been glazed onto the bricks by the high kiln temperatures. The kiln floor itself was very badly damaged. The kiln was dug into the ophiolitic bedrock. The floor of the combustion chamber was covered with bricks and also the interior face of the fire chamber was lined with bricks. The outer face of the kiln was built of clay, brick and limestone fragments. Nothing remains of the original superstructure. The flue or fire tunnel extended 1.1 m in front of the kiln. It was lined with limestone and tuffo blocks and had a beaten earth floor. The interior of the kiln had been cleaned prior to its abandonment; no

ashes or charcoal were preserved in the combustion chamber. The fill contained a small ceramic assemblage datable to the 4th/5th century AD. No datable material could be related with the construction of the kiln, but in case the dump (see further) located in the immediate neighbourhood may be associated with this workshop, the potters may have re-occupied this area from the later decades of the 3rd century AD onwards.

Kiln 4 in space 5 (**Fig. 8.2** and **Fig. 8.6**) is of the same type as the kiln described above. The structure was made entirely of brick, with a thick mud plaster lining the interior and a coat of clay, brick and limestone fragments protecting the outside. The combustion chamber had a diameter of 1.9 m, with a central support, 0.6 m across, and radially placed arches, sustaining the kiln floor. This room was *c.* 1.1 m high. The flue was 1.4 m long and 0.9 m wide, facing west-southwest. A relatively small stoke hole was identified in front of the opening into the combustion chamber, roughly 0.3 by 0.6 m. A 3rd to 4th century AD coin was identified in its fill. Both the floors of the combustion chamber and the flue were covered by a mud lining. The upper room of the kiln was exceptionally well preserved, still standing to a height of 0.85 m above its floor. The lower part was built of brick and lined with mud plaster whereas the upper part – the lower part of the dome – consisted of a mixture of clay and brick fragments, lined with tiles on the interior. The upper room measured 1.2 m in diameter and contained 28 irregularly shaped stoke holes, located close to the wall of the dome and in the interstices of the arches. An 0.5 m wide opening into the upper room, facing west, was lined with two mud brick posts. Here as well the combustion chamber had been cleaned upon abandonment. Afterwards the combustion chamber of the kiln was intentionally backfilled with a clayey matrix[1008], containing rather large sized fragments of 5th century AD Sagalassos tableware. The upper room was packed with sherds of medium-sized *pithoi* and the associated tableware fragments could be dated to the 5th century AD as well, but with inclusions of some earlier material. A patch of Çanaklı clay was deposited between the southern side of the kiln and the northern wall of Room 5. The clay was probably used to make the spacers used for separating the vessels inside the kiln.

The way both kilns were cleaned and carefully filled and the way in which some of the small clay containers were smashed in the door openings could point towards 'ritual abandonment' behaviour, unlikely with the intention to return after the winter (too much intentional destruction of infrastructure[1009]), but rather with the idea of effectively leaving the ship. In any case, the structure was never again occupied and the area was also not reused for different purposes. The building might have been partially dismantled, *e.g.* to recover roofing material: very few tiles were retrieved from the excavated deposits, pointing to them being reused as *spolia* somewhere else or to a different kind of roofing (a thatched roof or a flat, wattle-and-daub roof?). As mentioned above, it is likely that the upper parts of the workshop's walls were made of sun-dried brick, which may not have left many traces in the archaeological record. There is no immediate explanation to be found among the archaeological data as to why the Late Roman workshop was abandoned at some point during (the first half of) the 5th century AD. This event could not be associated with a natural or other disaster, such as an earthquake or a fire. There is also no known hiatus in the production of Sagalassos Red Slip Ware, which would continue for another two centuries.[1010] The most probable explanation for the abandonment is that the proprietor of the area withdrew his support for the pottery production without finding a proper alternative for his lands. This abandonment of the trade might, however, coincide with the difference in typology between phases 7 and 8 in the typo-chronological evolution of Sagalassos Red Slip Ware, but as yet we could not discern a specific event that could have triggered this change.

[1008] The practice of cleaning the atelier and protecting the infrastructure after use were stipulated in contractual obligations, which imply that these workshops were rented out. Based on the study of papyri contracts from Egypt and research on the stamps at Arretium, it can be demonstrated that these contracts were based on the *locatio conductio rerum* principle, in which the workshop would have been leased on a temporary basis by the (land)owner (*locator*) to the potter (*conductor*). Similar contracts (*locatio conductio operis faciendi*) might have existed between the main potter and his staff (Fülle 1997, 121-127; Poblome 2013, 88; Murphy & Poblome in press). See also § 8.3.3.

[1009] Too what extent post facto vandalism might have contributed to the image of 'ritual abandonment' gathered from the excavations is unclear, but its potential effect should not be disregarded.

[1010] See for example the coroplast workshops at sites PQ (see § 8.3.2) and LE.

Fig. 8.5. Kiln 2 in space 7, view from the south.

Fig. 8.6. Kiln 4 in space 5, view from the northeast.

8.3.2 The coroplast workshops at site PQ[1011]

Introduction

We already mentioned the site of the PQ coroplast workshops in previous chapters (see § 6.3.3), because some of the remains encountered within the trenches could be dated to Late Hellenistic and Early Roman Imperial times. However, no specific activity could be associated with those earlier remains. The artisanal history of the site can only be traced in detail from the Late Roman period onwards, which is why the discussion is incorporated into this chapter. The area selected for excavation followed on the results of the geophysical survey conducted by the Slovenian team under direction of Branko Mušič in 2003 in the area immediately east and northeast of the theatre (**Fig. 8.16**). This research revealed a concentration of specific anomalies caused by circular units composed of fired clay, probably to be identified as kilns. These circular features appeared to be located within a building block subdivided by a set of irregular walls. At the surface of the area a concentration of misfired slag was noted, while parts of the surroundings appeared to be covered with pottery production waste.

The initial aims of the 2004 excavations in the PQ 1 site were to correlate the data provided by the excavations with the results of the geophysical surveys, to identify the nature of the artisanal activities at the site and to incorporate the results in our knowledge of craft activity in particular and economic history in general at Sagalassos. These aims would be finetuned with each campaign, to eventually also include delineating a single workshop, defining its detailed chronological phasing, drawing up its architectural plan, establishing the production repertoire of the workshop and attempting to attribute functionality to specific spaces to better understand circulation patterns of production.

The excavations at site PQ (executed in 2004, 2008-2009 and 2011) revealed a series of pottery kilns that were incorporated into one compact *insula* (building block) of different workshops (**Figs. 8.7-8.8**). In contrast to the east slope workshops, craft activities at the site of the PQ coroplast workshops (mould-made wares and figurines) seem to be introduced only in the late 4th century, a date based on ceramic and numismatic evidence encountered throughout the site. The introduction of the artisanal activities apparently followed a period of abandonment and structural collapse of earlier occupation. Human interventions on the site could be traced back to Late Hellenistic times, but these remains could not be associated with a specific purpose. Roman Imperial remains included the ruined vestiges of (the annexes to) a monumental building located southeast of the site (see § 6.5.3), which were partially filled in and used as support walls for pottery kilns of the Late Roman coroplast workshops (**Fig. 8.7**). The northern parts of the site, however, appear to have been entirely cleared and levelled in preparation of the erection of the series of workshops. This thorough intervention would have eradicated possible older features in this part of the site.

The walls associated with the phase of artisanal activities consisted of limestone rubble foundations (plinths) and mudbrick superstructures. Most of the time there was a distinguishable difference in width and execution between the surrounding, structural walls (or plinths?) and the inner, dividing plinths, with the former ones generally structurally more sound, wider and somewhat better executed. The contrast with walls from more monumental structures, such as the site G complex, PQ 2 *schola* or the rectangular building southeast of the PQ coroplast, was obvious as well, since those walls (both the foundations as well as the standing walls) consisted entirely out of mortared limestone rubble (see § 6.5).

This complex of workshops underwent a thorough phase of reorganisation and architectural alterations in the 5th century AD, but the site appears to have been in use uninterruptedly until the first half of the 6th century AD as a series of coroplast ateliers. Also post-coroplast activities have been attested across the area, with little to no

[1011] The description of the Late Roman coroplast workshops is based on the internal excavation reports by Jeroen Poblome and Peter Talloen (2004), by Elizabeth Murphy and Rinse Willet (2008) and by Elizabeth Murphy (2009 and 2011). The workshops were also preliminarily published in the 2005, 2010 and 2012 *Kazı Sonuçları Toplantısı* (Waelkens (ed.) 2005, 278-279; Waelkens *et al.* (eds.) 2010, 273-274 (Turkish); Waelkens *et al.* (eds.) 2012, 145-146 (Turkish)). A model for the organisation of one of the workshops was discussed in an article in *Pottery in the Archaeological World* (Murphy & Poblome 2010) and in *Journal of Mediterranean Archaeology* (Murphy & Poblome 2012). An upcoming article in *Anatolian Studies* is providing updated views on the topic (Murphy & Poblome in press).

alteration to the pre-existing architectural structures. Specifically, at some point in the 6th century AD – and thus probably shortly after the abandonment of potting activities – the floors of the ceramic kilns were pulled out and the flues blocked in function of their conversion to lime-burning. Following the total abandonment of the structures, the area appears to have continued to have been used for pastoralism, agriculture and water transport, a phase described more in detail in § 9.4.2.

In the next paragraphs, we will describe the architectural remains of the individually discernible workshops, after which the current hypotheses on organisation, decision-making processes and ownership of the complex are presented.

Fig. 8.7. Map of the PQ coroplast site. The completely excavated workshop I is indicated in blue and the monumental building to the southeast indicated in grey (presumed annexes in light grey). The spaces (A-H) and kilns (1-11) that are mentioned in the text are indicated. See Attachment 3 for more detail.

The archaeological context (Figs. 8.7-8.8)

The coroplast workshops were active from the late 4th till the first half of the 6th century AD. It is possible to subdivide this period into several phases, which, remarkably, all workshops went through collectively. There appears to have been one general phase of reorganisation in the 5th century AD, which entailed the relevelling of floor surfaces throughout all workshops. Likewise, all workshops went out of use around the same time and, afterwards, all operative kilns were reused for lime burning and subsequently closed off by blocking the flues with limestone blocks. This uniformity in the occupational history of individual workshops is one of the indications that suggest that the decision-making process happened at a level above the individual workshop

(see further under 'The organisation of the coroplast production'). The features described below concern the final phase of use as coroplast workshops, thus covering the first half of the 6th century AD.

Coroplast workshop I

Only one workshop (workshop I) was exposed in its entirety; parts of at least three more workshops (IIa-IIb, III and IV) have been excavated as well. The study of coroplast workshop I allowed for the reconstruction of the complete production process of SRSW coroplast items at Sagalassos (see further). In general, the workshop appears to be subdivided into a northern and southern half, with the kilns located in (half) open spaces in the south (F-H), while most of the other functions were located in closed rooms in the north (A-E). The kilns of the other workshops also appear to be concentrated in areas adjacent to the 'courtyard' of workshop I, showing a certain degree of uniformity. The structural walls between the different workshops are shared and some walls and the main east-west wall appear to be continuous throughout several workshops. Elizabeth Murphy furthermore suggests that the complex might have had a shared roofing structure.

The northern half of the workshop consisted of five interior spaces (A-E). **Space D** (measuring *c.* 3.95 m in length and *c.* 1.5 m in width) was a short corridor that led from the courtyard to the interior spaces; the limestone threshold between the closed and open spaces is still *in situ*. Inside the corridor, along its eastern wall, a grinding mortar was embedded into the floor. The large **space E (**measuring on average 5.4 by 3.8 m), immediately to the east of the corridor, contained a thick deposit of SRSW fabric 1 clay along the north wall, which was originally held back by a (decayed) wooden shuttering supported by large stones. Inside the clay pile a water container was found as well as a worked bone scraper, which was most likely used to cut chunks from the clay deposit. It is suggested that the middle part of the room would have been used as the working floor where the clay would have been prepared by foot wedging. The large amount of moulds and stamps encountered in the rest of this room suggests that it was used as a working area for moulding wares as well. Additional light allowing this kind of detailed work would have come in through a door giving immediate access to the courtyard to the south. The L-shaped **space A** (measuring *c.* 5.95 m east-west by 5.3 m north-south) was apparently equipped with all necessary infrastructure for a single potter to throw his pots: a pottery wheel support[1012], a nearby column base probably serving as a seat and a large wall niche that could have been used for storing tools and other work items. On the floor, lenzings of two different types of clay fabrics were encountered, which could be archaeometrically identified as the fabric 1 used for the body of the vessels and the type of clay necessary for the slip layer.[1013] The potter's wheel was most probably used to form the necks and rims of the *oinophoroi* (one or two handed jars). Since this is the only space in the workshop where the 'slip clay' was encountered, it is also likely that the ceramic products were slipped in this room. The room was subdivided by a dry stacked rubble wall into separate spaces that might have been used for the above-mentioned different purposes. The small **space C** (measuring *c.* 2.3 by 1.6 m), located in the southwestern corner of the northern section of the complex, did not contain any particular features that would allow attributing a specific purpose to the room. However, the floor within this space was lower than the surrounding spaces, suggesting a possible use as a storage cellar. The fill of the room furthermore suggested that this space was still in use as a dumping ground for refuse when the lime burning activities took place in the workshops. Finally, the small **space B** (measuring *c.* 2.65 by *c.* 2.15 m) in the

[1012] This type of supports closely resembles the 'rolling stones' used to level roofs and surfaces. However, they were encountered four times throughout the coroplast workshops, three times in an upright position and all four times in combination with a flat-topped stone in the immediate vicinity. They have furthermore also been encountered in the workshop east of the Library and in the east slope workshops.

[1013] The word 'throwing' in its meaning of 'turning pots' is used here in the historical sense of the word: the Old English 'thrawan' means 'to twist or turn'. Because the activity of forming pots on the wheel has not significantly changed since ancient times, the word 'throw' has retained its original meaning in the world of ceramists, while it has developed into a parallel meaning in everyday usage. The same applies to several other words in the 'language of potters', such as 'sagger' (a corruption from 'safeguard') and 'slip' (from the Old English word 'slype', meaning 'liquid mud') (from Dennis Krueger on ceramicstoday.com).

northeastern corner of the workshop was identified as the drying room: the probable lack of windows and the presence of a naturally desiccating floor of volcanic sand would ensure an even drying process.

Similar to the interior rooms, the courtyard was subdivided by irregular dry rubble walls. Four kilns (nos. 6-9) were accommodated into various corners of this courtyard, two of which (nos. 6 and 9) were considerably larger than the others. The availability of various types of kilns would have provided the potters with some flexibility in the firing schedules and technical specialisation. The badly preserved remains of a fifth kiln (no. 10), uncertain whether to be associated with the same workshop and occupation phase, were buried below post-workshop interventions (construction of a corral?) in the southern part of the courtyard. The courtyard was probably entered from the south, but these later interventions obscured this part of the atelier. As far as could be established, all the kilns within workshop I had their entrances to the firing chambers blocked by (a) large stone(s). The dimensions mentioned below always refer to the kilns' firing chambers. **Kiln 6**, in the northeastern corner of space H, was a key-hole shaped kiln (measuring *c.* 1.20 m in length and *c.* 1.0 m in width), orientated southwest-northeast, with its flue opening towards the southwest. **Kiln 7** and **kiln 8** were both located in the southern part of space G and are thus far the smallest kilns studied in Sagalassos. Both kilns had an almost round firing chamber (a diameter of *c.* 0.75 m in the case of kiln 7 and *c.* 0.90 m in the case of kiln 8). The flue of kiln 7 was oriented towards the west and thus accessible from space G. The firing chamber of kiln 8 was preserved to a height of *c.* 0.80 m and the arched flue opening was located on its northern side. **Kiln 9**, in the northwestern corner of space F, could be identified as a key-hole shaped kiln (measuring *c.* 1.80 m in length and *c.* 1.55 m in width on the exterior) with the flue protruding towards the east (**Fig. 8.13**). Its walls were constructed of bricks covered with a clay lining. No central support was present, since the arches sustained the kiln floor, springing from a ledge arranged at about half the height of the firing chamber. **Kiln 10**, finally, was the least preserved of the kilns encountered within the confines of workshop I. Despite the fact that only the very bottom floor of the combustion chamber was preserved, it seems that the kiln was of a design common throughout the coroplast complex: a roughly circular plan of tile and brick (estimated diameter measuring *c.* 1.10 m) constructed into two to three support walls with a flue projecting towards the north or west. In the northeastern corner of **space G** two small, rectangular ovens were exposed side by side, constructed of reused (building) ceramics and covered by mud-plaster. Similar arrangements have been encountered in contemporary domestic contexts as well as in the coroplast workshop east of the Library. The northern and southern oven walls are constructed of roughly worked limestones. The lack of full tile lining on this oven suggests that it may have been a small warming hearth rather than a formal oven. The abandonment floor fill produced several complete moulds and stamps suggesting that the spaces may have been used for storage of such equipment. These hearths were not exposed to the same heat as the pottery kilns (or even ovens), which is probably why they did not show up on the geophysical survey (**Fig. 8.15**). The presence of such a cooking set, in combination with the presence of cooking vessels, shows that meals could have been prepared at the workplace. The absence of any other evidence for permanent domestic use of the infrastructure, however, suggests that cooking meals might have been limited to 'work lunches'.[1014] The courtyard was clearly not one larger, open space. The small interior walls – consisting of a dry limestone rubble plinth and, presumably, a mudbrick wall – not only divide the courtyard into individual working spaces (F-H), but probably also carried provisional or dismountable roofs to protect the firing features (kilns and ovens). The remarkably limited amount of nails and roof tiles encountered throughout the coroplast workshops suggests

[1014] The provisions encountered within the workshops (furnace / cooking vessels) allow for the heating or cooking of simple meals, but are no evidence for permanent habitation of the places. One should imagine that a night watch (a slave or an apprentice) might have been spending the night there, but we are clearly not dealing with artisanal activities on a household level. These were professional work spaces that, moreover, functioned on a seasonal basis (see also § 11.2.2: 'Fears').

either the thorough curating of such construction materials upon closure of the workshops or the use of other materials to cover the infrastructure.

Coroplast workshop(s) IIa-IIb

Two kilns in the northeastern part of the trench were included in (a) workshop(s) that fell largely outside of the excavated area (**Fig. 8.8 a**). The remaining rooms of workshop(s) IIa-IIb must have been located east of the northern section of workshop I, while the excavated parts, containing some of the kilns, were immediately adjacent to the courtyard of workshop I. **Kiln 4** was key-hole shaped (measuring *c.* 1.45 m by *c.* 1.25 m) and had a southeast-northwest orientation, with the flue opening towards the northwest by means of a vaulted opening through the main east-west wall of the coroplast workshops (**Fig. 8.12**). Similar to the other kilns, it was built up of tiles, yet here it consisted of three rings. Similarly, also **kiln 2** was oriented south-north, with the flue directed towards the north and only accessible from the other side of the main east-west oriented wall. The firing chamber of this key-hole shaped structure (measuring *c.* 1.30 m in length and *c.* 1.25 m in width) was preserved to a maximum height of 0.93 m. Its walls were constructed of bricks covered with a clay lining. No central support was present, as the kiln floor was sustained with arches springing from a ledge arranged at about half the height of the firing chamber (in this case *c.* 0.60 m above the floor). The opening towards the firing chamber was covered by a brick vault and was later blocked by a wall of dry laid rubble stones. As the flue of the kiln was situated on its northern side, it was only accessible from an as yet unexcavated space within workshop(s) II, as was the case with kiln 4.
The construction of kilns 2 and 4 was originally dated to the first half of the 5th century AD, which was later adjusted to the late 4th century AD. It could not be established whether both kilns served the same workshop (II) or two different workshops (IIa and IIb). It appears that the main east-west oriented wall, which in the case of workshop I separates the courtyard space(s) from the interior working spaces, also continuous throughout workshop(s) IIa-IIB. Together with the observation that the structural walls between workshops are shared walls, this is an additional indication for the hypothesis that the workshops might have been conceived as one complex.

Coroplast workshop III

Our knowledge on workshop III, situated along the northern edge of the site, is very limited. Only a small part of the workshop fell within the outlines of the PQ trenches and the rooms that did fall inside could only be partially exposed as not to undercut the terrace wall bordering the workshop to the north (the same wall that supports the higher terrace with the east-west oriented street along the northern edge of the coroplast *insula*). One kiln might be associated with this workshop. In the western extension of the trench the remains of a poorly preserved kiln floor were encountered. This **kiln 11** (diameter *c.* 0.90 m) was situated at the floor level of the adjacent spaces of workshop III, which is dated to the second to third quarter of the 6th century AD. It was in a very poor state of preservation due to its close proximity to the modern surface (*c.* 0.60 m below surface) and due to post-abandonment disturbance/dismantlement associated with the construction of a later water channel. The remains of the kiln are consistent with other kilns found in the complex: a tile-lined and clay-mortared floor and built into a series of walls. Excavation of this sector also exposed an expanse of natural scree deposits just to the west of the workshop complex. This area demonstrated that the workshop complex was constructed in terraces cut into the natural scree. In fact, the western wall of the complex was constructed against a cut-down, vertical section of the natural scree, and the small trench (*c.* 0.15 m wide) between the outer wall face and the vertical section of scree was backfilled with a cultural fill dated to the Late Roman / Early Byzantine periods (**Fig. 8.10**).

Coroplast workshop IV

Kilns 1 and 5 can be associated with this workshop (**Fig. 8.7**), which must have extended beyond the outlines of the PQ trenches towards the east and south. On top of the workshop's floor a fine-grained limestone column drum was found, apparently reused as *spolia* into a potter's wheel base. A small, nearby pit with chinking stones and tile fragments encircling the edge could was probably the original position of the column drum, as the diameter of the pit depression corresponded to the diameter of the column fragment. An isolated set of

limestone blocks, projecting from the northern face of the adjacent wall and situated approximately 0.50 m from the pit feature, may have served as the seat for the potter at work. The later disturbances encountered within workshop IV were also likely in function of the space's conversion for lime-burning. Key-hole shaped **kiln 1** (measuring *c.* 1.30 m in length and 1.20 m in width) was oriented northeast-southwest, with the flue opening to the southwest. Most of the firing chamber (still standing *c.* 0.95 m in height) as well as the arch above the flue were preserved intact (**Fig. 8.14**). The kiln was again a key-hole structure, with the arches sustaining the kiln floor springing from a ledge *c.* 0.45 m above the bottom of the chamber. Also the remains of the *c.* 0.35 m wide entrance to the stacking chamber were preserved above the opening of the firing chamber. **Kiln 5** (measuring *c.* 1.50 m in length and *c.* 1.35 m in width) had an east-west orientation with the flue opening to the east (**Fig. 8.11**). The space/courtyard from which both kilns could be served was only partially exposed. **Kiln 3** (measuring *c.* 1.60 m in length and *c.* 0.90 m in width) was east-west orientated kiln, with its flue opening towards the west. The kiln was encountered in the southeastern corner of the excavation trench and most likely belonged to the same workshop IV. Only the foundations were preserved, but it is likely that this kiln was also based on a key-hole shaped plan. A small, sloping down corridor (measuring *c.* 2.20 m in length and *c.* 0.80 m in width), paved with flat limestones and flysch stones, led towards the flue of kiln 5. Both kilns 5 and 7 appear to be constructed on top of remains of the Early Roman Imperial walls associated with the monumental building to the southeast. A dense concentration of limestone rubble and overfired tile and brick was found in this corridor, in the flue of kiln 5 as well as in between kilns 1 and 5, effectively and apparently purposefully blocking the access to both kilns. It is suggested that the overfired building ceramics originated from the kiln's interior, perforated floor; an indication for the conversion of the kiln for lime-burning.

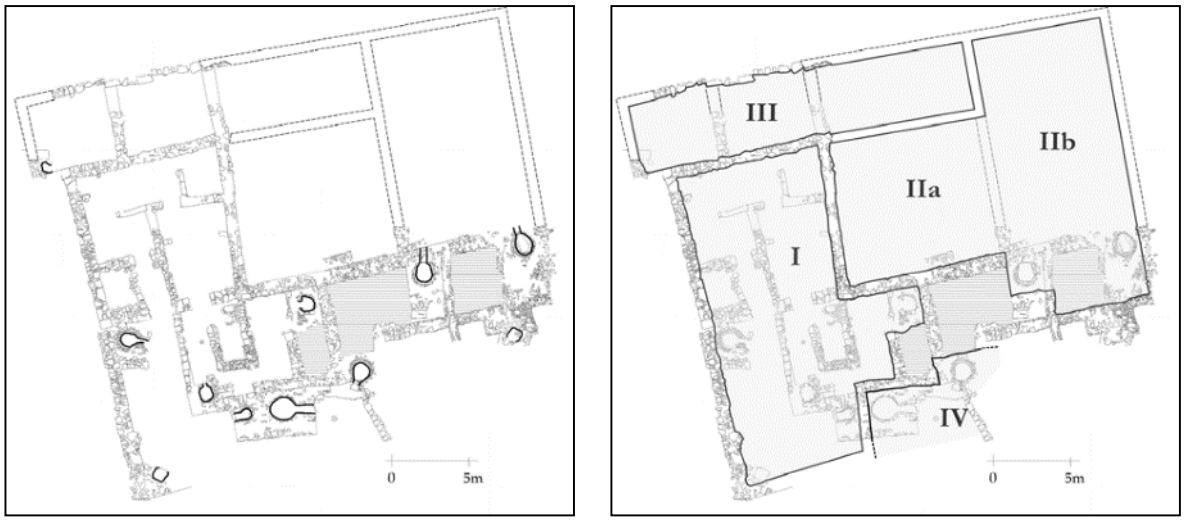


Fig. 8.8 a/b. Simplified representation of the excavation results: a) map highlighting the kilns and their orientation; b) schematic representation of the presumed division between the individual workshops. From Murphy & Poblome in press, Fig. 2.

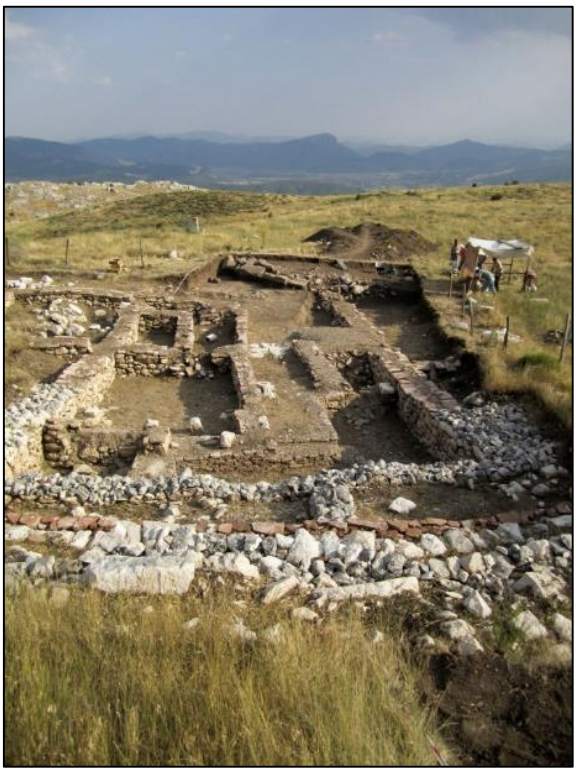


Fig. 8.9. The northwest and west coroplast workshop, seen from the north. The picture is taken from a higher terrace. Here a street ran north of the coroplast workshops.

Fig. 8.10. Foundation trench of the eastern wall of the workshops complex. The narrow gap between the natural substratum and the wall was filled up with a cultural fill.

Fig. 8.11. View from the north on kiln 5, located in coroplast workshop IV. At the top of the picture one can clearly see the stacked limestone blocks that block the entrance of the flue.

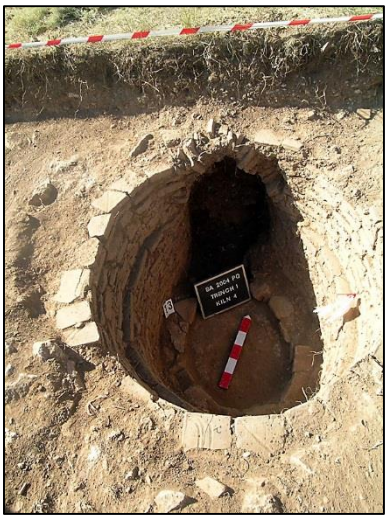


Fig. 8.12. View from the south on kiln 4, located in workshop IIb. This kiln was studied during the 2004 excavation season.

Fig. 8.13. View from the east on the partially excavated kiln 9 in workshop I, showing a section of the fill with building ceramics.

Fig. 8.14. Kiln 1 in workshop IV is arguably the best preserved example of a kiln encountered within the excavated parts PQ coroplast workshops. The fill inside the kiln contained a rich ceramic assemblage consisting of several complete or restorable vessels (a local *amphora*, several *oinophoroi*, a storage vessel, an oil lamp decorated with an eagle, an unfinished terracotta figurine of a warrior on horseback and several decorative *oinophoroi* moulds).

The organisation of the coroplast production

In an upcoming paper in *Anatolian Studies* 66 Elizabeth Murphy and Jeroen Poblome set forth an updated view on the organisation of and decision-making process behind the PQ coroplast workshops. This concentration of workshops in many ways adhere to the 'mode of production' described by David Peacock as 'nucleated workshops'[1015]: *i.e.* independent ateliers that are spatially clustered together in order to share access to resources and distribution networks. The correspondences of the case of the Sagalassos coroplast workshops (but in fact also applicable to the whole potters' quarter) are evident: multiple contemporary ateliers operating within a limited space, while still retaining a lot of autonomy on the level of the individual workshop. The autonomy is first of all attested in the architectural plan, with the apparent lack of direct passages between workshops, despite their physical proximity (even sharing structural walls). Secondly, as is demonstrated by the PQ workshop I, but also by the Late Roman east slope workshop and the coroplast workshop east of the Library, individual workshops were fully equipped to support the entire production process of their wares, from raw materials to finished product, without interference from third parties. It is important, for the moment, to notice how the necessary steps for acquiring the raw material and distributing the finished products are not included in this process.

There are also indications that the organisation and decision-making process of the PQ complex of workshops did not happen on an individual/independent level. First of all there is the observation that all workshops producing SRSW are working with raw clay originating from the same clay source (a specific location in the Çanaklı valley, see § 6.3.1). Secondly, the coroplast workshops appear to form a clearly spatially defined building block within the Eastern Suburbium and the workshops themselves are physically intertwined. Thirdly, there is an obvious uniformity both in product repertoire as well as in iconography throughout the various coroplast workshops. A final, strong indication lies in the occupational phases that all workshops collectively and contemporarily went through, from their original construction in the late 4th century AD until the recycling of the kilns for lime burning after the abandonment of the coroplast activities in the first half of the 6th century AD.

Murphy and Poblome interpret these indications for shared decision-making as deviating from the production mode as presented by Peacock. The definition of the 'nucleated workshop', as expressed above, does imply a level of shared decision-making in the aspects of raw material acquirement and distribution of the goods, but a coordinating view on the organisation of the workshops more closely resembles Peacock's 'manufactory mode'. This mode describes how "*multiple craftspeople work in a shared space owned by a single proprietor and each craftsperson individually manufactures the goods sometimes with the help of assistants*".[1016] Murphy and Poblome refer to the labour-lease arrangements known from Roman Egypt, *i.c.* the *locatio conductio* contracts, in order to explain this compound view on the operation and organisation of the pottery workshops at Sagalassos. The *locatio conductio rerum* principle stipulates how the workshop, with all or part of its infrastructure, would have been leased on a temporary basis by the (land)owner (*locator*) to the potter (*conductor*). Also the acquisition of the necessary natural resources (water, clay, fuel, *etc.*) might be covered by such contracts. Similar contracts (*locatio conductio operis faciendi*) might have existed between the main potter and his staff, as the leasing potter thenceforth operates independently within the infrastructure allotted to him. We should, however, have a necessary dose of reservation as regards the practical application of legal sources in a specific Anatolian case study. Nevertheless, based on the evidence at hand it seems more than justified to suggest that the decision-making process on the organisation of the pottery production process at Sagalassos involved a level clearly transcending the individual (master) potter. (Elite) land ownership might have played an important role in this decision process, but it cannot be excluded that – especially in an industry of this scale – the presence of a *collegium* of potters could have been an important factor as well.

[1015] Peacock 1982, 9.

[1016] Murphy & Poblome in press; see also Peacock 1982, 121-122.

8.3.3 The potters' quarter in Late Antiquity

An expanding business?

The ascertainment of Late Roman ceramic production in both trenches that are located inside the potters' quarter of the Eastern Suburbium (**Fig. 8.16**) is a strong indication for the scope of the pottery trade in Late Antiquity. Admittedly, the excavations only provide a chronological framework on a small sample of the artisanal quarter, since – as has already been mentioned above – it is not possible to date with any certainty the kilns attested by geophysical surveys alone. We also need to keep in mind the observation that the Roman Imperial workshop(s) at site F (see § 6.3.4) apparently have no counterparts in Late Roman and Early Byzantine times. This observation, however, is nullified by the discovery of a Late Roman coroplast workshop east of the Library[1017], located clearly outside the 'traditional' Roman Imperial centre of pottery production – in an area previously occupied by public architecture. There is also no indication for the presence of potters at the PQ site prior to the establishment of the coroplast workshops in the late 4th century AD. Moreover, since the kilns discovered by geophysical survey in the monumental building southeast of the PQ coroplast most probably mark the abandonment of this building's original purpose(s), it is justified to date those kilns to Late Roman times as well (see § 6.5.3 and § 8.5.2 for the argumentation on the dating of this building).

In fact, it seems that the extension of the Late Roman pottery production quarter was unprecedented. It is also likely, however, that this 'expansion' was accompanied by a general decentralisation of artisanal activities, by the dilution of the occupation density of the quarter or by a combination of both factors. A decentralisation of activities would seem to imply a change in the way local instances dealt with the urban texture in general and the crafts in particular. The dismantling and subsequent occupation of a previously monumental block for residential and especially artisanal activities – as was the case east of the Library – is only one example of the intrusion of more typically suburban activities onto the urban centre. In § 1.2 we listed several other observations, all postdating the 4th century AD, which were referred to as indications for gradual changes in the urban texture: intramural burials, 'zone alien' usurpation by artisanal activities, abandoned plots, omnipresent waste dumping, *etc.* Evidently, these observations should not be translated one-on-one into value judging comments on the civic meaning of Sagalassos, as political, economic, socio-cultural and religious factors also play part in these changes. However, it does entail the watering down of previously more defined borders between urban, suburban and rural practices. The conclusion from field survey data that the occupation of the site became less dense and less extensive from the later 6th century AD onwards, might also be seen in this light.

This dilution of actual and imaginary borders can even be observed in the Eastern Suburbium itself. It is clear that the usurpation of space previously reserved to certain activities has been an ongoing practice throughout the history of the *proasteion*: agricultural land turned into burial plots, quarry pits into waste dumps, burial plots into artisanal workshops (and *vice versa*), artisanal and burial plots into waste dumps, *etc.* However, as far as we could establish, it appears that the 'monumental' southwestern quarter of the Eastern Suburbium was safeguarded from intrusive elements during Roman Imperial times. This would clearly change during this period, with the abandonment and dismantlement of the site G complex and PQ 2 *schola* and most likely also the relinquishing of the monumental building southeast of the coroplast workshops.

While the above-mentioned observations are closely linked with a reasoned but arguable shift in urban policies as an explanation for the expansion of the potters' activities, there are also factors that would untenably lead to a decrease of the occupational density of the 'Roman Imperial' potters' quarter. While tombs were not necessarily associated with an inherent eternal sanctity, it is obvious that the more monumental structures would have a longer life span than the average workshop. To some extent there certainly must have been a taboo on disturbing or destroying ancient burials, especially as long as there are next of kin who are caring for – or depending on (keeping in mind the possible economic value of the funerary garden) – the burial plot. Also when considered from a practical point of view, it would have been a more complex enterprise to usurp a monumental funerary plot, with walls constructed entirely of limestone, instead of rebuilding a workshop at its own premises.

[1017] Poblome *et al.* accepted.

While land ownership would certainly also have been an important criterion in the development of specific activities throughout the *proasteion*, its repercussions for the various types of land use would not necessarily have been a decisive factor. However, the above-mentioned practical and ethical arguments are more likely to have more lasting effects on funerary plots. Indeed, at the PQ 1 site it could be observed how the *naiskos* tomb – and its surrounding *temenos* – would occupy a plot previously in use for artisanal activities. And even though the *naiskos* tomb would also not stand the test of time – falling in disuse after several centuries, undergoing partial dismantlement and being used as a dumping ground for pottery production waste – the plot would never be reoccupied by artisanal activities. In fact, the tomb would serve as the resting place for undisturbed burials until present day (*i.c.* the unopened northern burial chamber). In se, *necropoleis* were more likely than artisanal quarters to keep on expanding.

Likewise, dumps would per definition become an ever accumulating issue (see also § 11.2.2). It was obviously not impossible to reuse a plot of land where waste had accumulated, either by moving the waste (and thus shifting the problem) or by levelling the terrain. The observations in the field, however, show that waste dumps were very likely to represent the last occupational phase of use on many sites. This became also clear through field surveys: while relatively few architectural remains are visible at the surface in the Eastern Suburbium, there are many locations where (eroded) dumps are outcropping.[1018] It is not a coincidence that the remainders of the *naiskos* tomb as well as the Imperial workshops at site F would eventually become engulfed in waste instead of being reoccupied by workshop activities.

The scale of pottery production in Late Antiquity

Recently, Rinse Willet and Jeroen Poblome published a paper in which they assess the output of Imperial pottery production at the site of Sagalassos, concluding that it was *"more than capable to fulfil local needs and was in all likelihood primarily aimed at outside markets"*.[1019] A similar study for the scale of production in Late Roman and Early Byzantine times has not yet been undertaken and does not lie within the scope of this thesis. Nevertheless, there are some general observations that can be made based on the data at hand.

First of all, it is remarkable that five of the six excavated workshops active throughout the 5th century AD – at least four workshop units at the PQ coroplast site (see § 8.3.2) and the workshop east of the Library[1020] – were specialised in the production of mould-made items, such as figurines, oil lamps and *oinophoroi*. In addition, there is the discovery of a large coroplast production waste dump in the northern part of the Macellum's courtyard. The origin of this dump cannot be determined, but it is not unlikely that the waste originated from a workshop located closer to the Macellum than the workshop east of the Library. These observations are likely to be a coincidence, considering the fact that these items only constitute a "*rather small portion of the wider* [SRSW] *product range of that period*".[1021] However, this also implies that it is justified to multiply (by an uncertain factor) the total amount of contemporary SRSW workshops when including all locally produced red slip tablewares. Moreover, there must also have been contemporary workshops (or household production?) of common wares, such as vessels used for cooking, transport and storage elsewhere in the territory. While there are no indications for the presence of common ware production in the Eastern Suburbium itself, this observation has implications for the estimations of the size of the labour force (seasonally) employed in the potter's trade.

We also should like to suggest that the current views on the estimation of the number of kilns present within the quarter deserves an update. In a 2015 article Rinse Willet and Jeroen Poblome mentioned how *"the geophysics*

[1018] The ubiquity of these dumps were the determining factor in the identification of the Eastern Suburbium as the city's main artisanal quarter during the first scientific survey of the site by the British Pisidian Survey Project in 1987 (Mitchell & Waelkens 1988, 60).

[1019] Willet & Poblome 2015, 146.

[1020] Poblome *et al.* accepted.

[1021] Murphy & Poblome in press. The range of products produced at the coroplast workshops is very limited: *oinophoroi* (circular, square, cylindrical and hexagonal), head pots (vessels portraying a bearded male face), figurines (mainly warriors on horseback, horses, dogs and other quadrupeds), oil lamps (elongated oval and circular) and possibly decorated dishes.

revealed some 89 anomalies of kilns or furnaces of which a total of 18 (seven kilns for the east slope workshop, one for site F and ten for the coroplast workshop) have been excavated and confirmed."[1022] In our opinion, these numbers can be further clarified and updated, based on the data at hand (**Fig. 8.16**). First of all, the quote implies that the 18 kilns discovered in excavations are among the 89 revealed by geophysical surveys, but this hold only true for seven of the eleven[1023] (not ten) PQ coroplast kilns. The seven kilns of the east slope workshop were already excavated before geophysical surveys took place (and which did not include the PQ 1 site and its immediate surroundings) and the kiln at site F is also only known through excavations, as only part of the steeper slopes of the Eastern Suburbium were covered by the geophysical survey. Likewise, four of the eleven kilns identified at the PQ coroplast workshops were initially only recognised during the excavations, even though it turned out afterwards they corresponded with smaller, but clear, anomalies on the geophysical survey. This way, we arrive at a more accurate number of 101 kilns.

Secondly, the combination of data derived from both geophysics and excavations at the PQ coroplast workshops clearly shows that the initial estimation of 89 anomalies identified as kilns is a conservative estimation. The four additional kilns that were identified during the PQ excavations, which were initially not recognised as such on the geophysical map, do in fact also coincide with relatively easily detectable anomalies (**Fig. 8.15**). In the light of these results, an attempt can be made at pinpointing more anomalies as potential kilns within the Eastern Suburbium. Thus, we are confident that the 136 anomalies currently indicated in **Fig. 8.16 b** are a closer estimation[1024] of the actual number of (pottery) kilns present within the area covered by geophysical surveys. From the same maps it is also clear that the kiln-related activities most likely extended beyond the borders of the geophysical surveys: onto the northern terraces (as was already attested at site F), towards the west and also in the immediate, non-surveyed surroundings of the PQ 1 site. Our current knowledge on the extent of the potters' quarter is thus limited by the constraints of the geophysical survey.

Finally, it is unlikely that furnaces would result in anomalies as clear as the kilns on the geophysical map. All of the geophysical anomalies that were confirmed in excavations (*i.c.* the seven kilns at the PQ coroplast site) turned out to be kilns. The same trench also contained the relatively well-preserved remains of a double cooking set, but these did not show up as a distinguishable feature in the geophysical survey (**Fig. 8.15**). It is thus likely that the vast majority, if not all, of the anomalies account for actual kilns.

There is little data available on the average lifespan of kilns. It has been argumented that the optimal life time is one generation (25-30 years)[1025], after which the amount of repairs and linings around the walls and the *eschara* (fireplace) will reduce the available space to such an extent that rebuilding would become the preferable option. The kiln was probably often rebuilt at the same spot – imposed by the ergonomical logic of the workshop – which would make it difficult to date specific building phases. Kilns encountered at the PQ coroplast workshops and PQ 1 east-slope workshops, for example, might have very well functioned 100-150 years at the same spot. It is thus more accurate to describe the abovementioned 136 anomalies as '**kiln locations**', with kilns being rebuilt possibly multiple times on the same spot. Indeed, as long as the workshop itself remained relatively unaltered in its internal logic, it would make not make sense to rebuilt an efficient kiln on a different location. Kiln locations are thus more likely to represent the lifespan of a workshop than the lifespan of a single kiln.

It is furthermore possible to estimate how many kilns were active at one specific point in time. This exercise has been done by Ellen Janssen and Bart Muys (Division of Forest, Nature and Landscape, KU Leuven) for the 2nd century AD[1026], based on estimated amount and lifespan of kiln locations as well as on the diachronic distribution

[1022] Willet & Poblome 2015, 142.

[1023] Jeroen Poblome and Peter Talloen described kilns 1-8 in their PQ 2004 internal excavation report; Elizabeth Murphy discovered three more kilns in the 2008-2009 and 2011 trenches at the same site: the well-preserved kiln 9 in the courtyard of the only fully excavated workshop and the badly preserved remains of kilns 10 and 11 located repectively in the southern and western extensions of the trench.

[1024] This is still considered a conservative estimate since not the entire zone of the Roman potters' quarter could be surveyed by geophysics and since kilns in poor state of preservation are not picked up by these methods (see § 2.2.3 and § 6.3.5 for the biases inherent to the applied research techniques).

[1025] Personal communication between Jeroen Poblome and Eleni Hasaki, associate professor of Anthropology and Classics at the University of Arizona.

[1026] See Janssen *et al.* in prep., Appendix B for a detailed motivation of the computations behind their exercise.

curve of Sagalassos Red Slip Ware[1027], amounting to an estimated range of 79-87 kilns active at the height of production around 150 AD. A lower *hausse* in the production curve has been detected for the Late Roman – Early Byzantine period (*c.* 450-575 AD). If we extrapolate the same computation to Late Roman times, then we can presume several dozen kilns being at use contemporarily for this period as well.

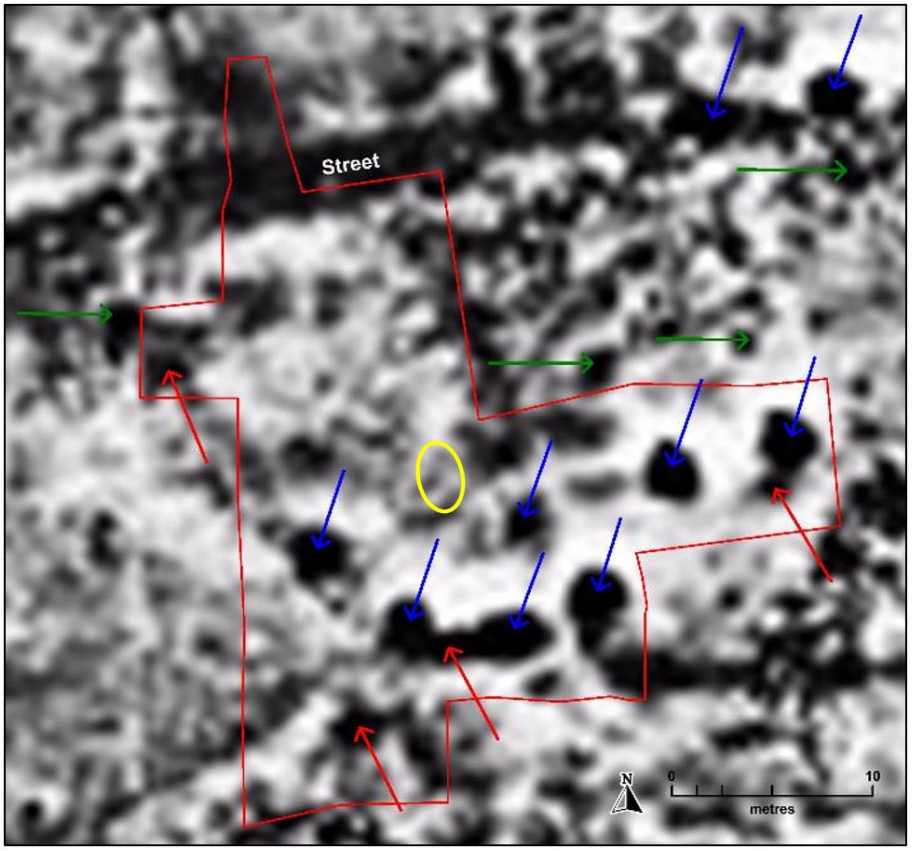


Fig. 8.15. Detail of the geophysical survey (see also Fig. 8.16 a): the site of the PQ coroplast workshops. The blue arrows indicate the anomalies that were initially interpreted as kilns, all of which were confirmed by the excavations. The red arrows indicate the remains of four kilns that were encountered during excavations, all of which also concur as (smaller) anomalies on the geophysical map. Based on these results, we tentatively pinpointed some additional possible kilns in the immediate surroundings of the PQ coroplast (green arrows). The same exercise has also been performed for the whole potters' quarter (Fig. 8.16 b). The yellow oval indicates the location of the double cooking set, which does not show up as a distinguishable anomaly.

[1027] Willet & Poblome 2011 based their curve on 53,695 rimsherds from a selection of representative and well-studied excavated contexts at Sagalassos, using a Gaussian distribution method.

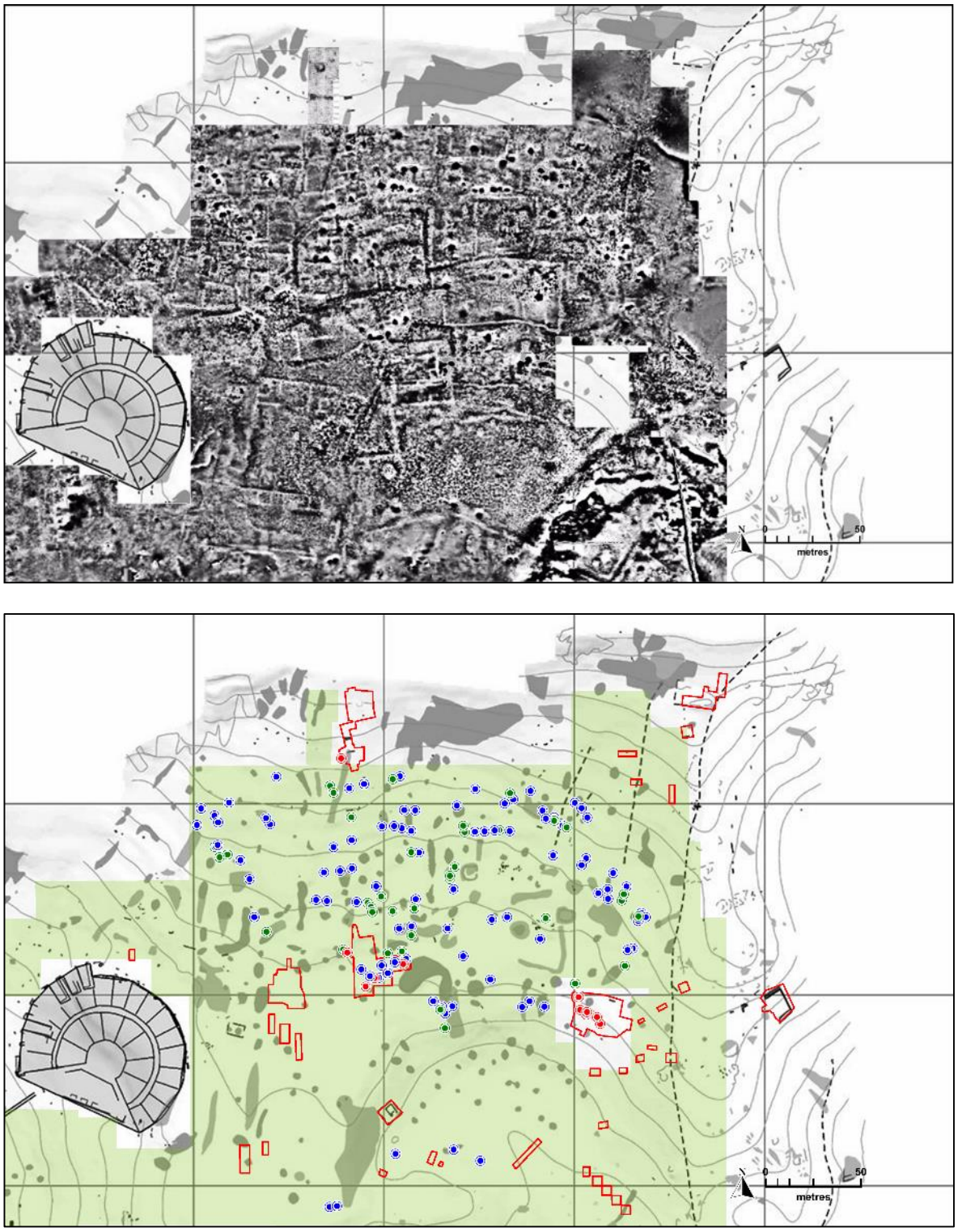


Fig. 8.16 a/b. Maps showing all identified kilns in the Eastern Suburbium's artisanal quarter: a) the 2003-2012 geophysical surveys; b) interpretation of the anomalies. The kilns initially identified by the geophysical survey are indicated in blue, the kilns identified during excavations in red and the kilns which presence can be postulated on the basis of the PQ coroplast workshops excavations in green. The excavations and test trenches throughout the Eastern Suburbium are outlined in red, the area covered by the geophysical surveys is shaded in green.

8.4 Funerary culture

8.4.1 Family tombs at site D and site F

Site D family tomb[1028]

The architecture of this tomb has been described in the preceding chapter (see § 7.4.5). However, as was mentioned earlier, the final phase of use of the tomb, which includes the deposition of the actual burials found inside the tomb, should most probably be dated in the 4th century AD. The tomb's content was severely disturbed due to burrowing animals, raiding by grave robbers and a partial collapse of its superstructure (not necessarily in that order) (**Fig. 8.17**). It is not certain how many individuals were entombed in the site D tomb, but the architectural remains suggested that there was place for at least four burials: three graves, separated by small rubble walls, in the front metre of the tomb and the main grave under the arch against the back wall.[1029] The lower part of the tomb, in front of the back wall, most probably served as a charnel when older entombments needed to make way for new burials. But the wooden planks or stone slabs that presumably covered this pit might have carried additional entombments as well.

The fact that the human remains were found throughout the 1.50 metres thick first fill of the tomb, where they were mixed with remnants of the back wall arch and of the side walls, indicates that this fill and the burials below it had been disturbed during the 5th century AD. Also still during the 5th century and early 6th century AD – after the collapse of the roof – the tomb and its surroundings were used as a dump site for potters' waste and kiln material. The layer containing the human remains was apparently disturbed to such an extent that it became impossible to distinguish between the original burial goods and the pottery waste dumped into the tomb after the roof had collapsed.[1030]

The anthropological study of these human remains established the presence of a minimum of eighteen adult individuals in this tomb and at least two children.[1031] However, the severe fragmentation and bad preservation of the skeletal material makes it very difficult to draw any additional information from the remains. Among the cranial fragments the occipital bone (membrane bone situated at the back and lower part of the skull) is the most frequent and allowed to ascertain the presence of a minimum of sixteen adults (an additional two are presumed based on other cranial fragments that cannot be attributed to these sixteen). As a result of the obvious limitations in the legibility of the material at hand, the attempt to attribute genders and age groups to these individuals is clearly biased as well (**Table 8.1**). Nevertheless, it is estimated that the 18 adults can be divided into seven (or nine?) male, five (or seven?) female and two individuals for which no sex could be determined. The vast majority falls within the age groups *adultus* (seven individuals) and *maturus* (nine individuals), with only two children (*infans*), one adolescent (*juvenis*), one elder (*senilis*) and one individual that could not be determined any more precisely than 'adult' (age between 20-60) at his time of death.[1032] The two children mentioned above are estimated to have been respectively between 3-6 (*infans I*) and 7-12 (*infans II*) old.[1033] It was not possible to determine their gender. The group as a whole is too limited and the difference between the amount of males and females too small to be significant to draw any demographic conclusions. Nevertheless, the results seem to confirm the identification of the burial monument as a family tomb.

[1028] The description of this monumental tomb is based on reports by Marc Waelkens and Selçuk Başer published in Anatolian Studies (Waelkens *et al.* 1990a, 185-198) and in the *Kazı Sonuçları Toplantısı* of the same year (Waelkens *et al.* 1990b, 119-154).

[1029] Waelkens *et al.* 1990b, 120-123.

[1030] Waelkens *et al.* 1990b, 120-122.

[1031] Charlier 1993a, 209; 1993b, 261-262. In her 1993 studies physical anthropologist Christine Charlier tries to draw encompassing demographic conclusions from the combined population of both monumental tombs (site D and site F). However, since the working hypothesis is that we are dealing with family tombs, this sample would not represent a significant part of the population. It is more relevant to study these two populations in their own right.

[1032] Charlier 1993b, 262.

[1033] Charlier 1993a, 215.

Fig. 8.17. Content of the burial chamber of the vaulted tomb at site D, view from the north. The shattered skeletal remains are dispersed over the collapsed east wall of the tomb. From Waelkens *et al.* 1990b, 151 Plate Id.

Fig. 8.18. Plan of the burial chamber of the vaulted tomb at site F, with indication of the scrambled finds (the tomb had been looted in Antiquity). From Waelkens *et al.* 1991a, 209 Fig. 8.

Age \ Sex		Male	Male?	?	Female	Female?	Total
***Infans* I**	3-6	-	-	1	-	-	**1**
***Infans* II**	7-12	-	-	1	-	-	**1**
Juvenis	16-20	1	-	-	-	-	**1**
Adultus	20-30	-	-	-	2	-	**2**
	30-40	1	(1)	(1)	(1)	1	**5**
Maturus	40-50	4	-	(1)	2	1	**8**
	50-60	-	1	-	-	-	**1**
Senilis	60+	-	-	-	-	-	**-**
	20-60	1	-	-	-	-	**1**
Total		**7**	**2**	**4**	**5**	**2**	**20**

Table 8.1. Distribution of the eighteen individuals from the 1989 excavations at site D according to their presumed age and sex. The numbers between brackets represent uncertain assessments. Based on Charlier 1993a, Table 5 and 1993b, Table 2.

Site F family tomb[1034]

The architecture of this tomb has been described in the preceding chapter (see § 7.4.5). However, as was the case with the site D tomb, the final phase of use of the site F tomb, including most of its grave content, is dated in the 4th century AD.

Inside the tomb the remains of at minimum seven individuals were excavated. The remains were completely scrambled, the result of a looting by grave robbers in ancient times (as was the case with the site D tomb) and by burrowing animals . Nevertheless, one individual could be reassembled with some certainty, since the remains were isolated in a *sarcophagus*-shaped recession, separated from the rest of the tomb by a narrow dividing wall (**Fig. 8.18**). This entombment originally must have stood on a wooden platform supported by this wall and the ledge at the same level along the east inner wall of the tomb chamber. Wooden fragments of such a platform have been encountered in the recession together with the collapsed human remains.

This best-preserved individual died as a young man around 20 years old. He was buried together with several belongings: a bronze fibula, several pearls, fragments of bottles and a large one-handled jug. Both the fibula and the jug justify a 4th century AD date for his entombment. The man was 1.71-1.75 m tall (depending on the anthropological method applied). He had a rather broad face, a robust lower jaw and pronounced chin. He was well-built, but suffered from an old but lasting, infected injury to his right foot, which led to a compensating limp and to slight asymmetries (a.o. signs of scoliosis) attested in the rest of his body. He was probably right-handed. His dental record and relatively tall posture are indications for a refined and protein-rich diet throughout his young life. This was gathered as evidence for a rather wealthy lifestyle by the physical anthropologist, but this view deserves nuancing based on more recent isotope research showing that meat was one of the staple foods in Sagalassos. However, a persistently inflated caries must have haunted him chronically. His facial features in general appear as common traits throughout the population studied by Charlier; in ancient Sagalassos he would have fitted right in.[1035]

The remains of at least six more individuals were collected from within the rest of the burial chamber; most human remains were found along the west and north walls. They seem to belong to another male adult (aged between 22 and 30), two females (one between 23 and 51, the other between 35 and 44) and to an adult whose sex could not yet be established.[1036] The tomb also contained the remains of two children of approximately 6 and 10 years old. These remains were too scattered and fragmentary to gain additional information from.

Despite the tomb clearly being robbed in antiquity, some of the original valuable content was overlooked, including two simple golden earrings (not matching), a bronze ring and pendant, many pearls, a denarius of Commodus (dated AD 177) and seven perfume bottles (dated to the 3rd or 4th century AD[1037]). There was also. Other grave finds should be attributed to the 4th century AD, as was the case with two oil lamps encountered (one in 1990 and one in 2012) in front of the door on the outside of the tomb. Since the tomb was most likely constructed a few centuries earlier, these finds are implying that the tomb was in use for some centuries. The lack of finds that can with certainty be dated to earlier periods makes it and the observation that the earliest burials and their belongings apparently had not been removed might point towards close (familial?) bonds between the tomb's founders – which were probably also the earliest entombments – and the continuing later burials.

[1034] The description of this monumental tomb is based on preliminary reports published in Anatolian Studies (Waelkens *et al.* 1991a, 197-208), in the *Kazı Sonuçları Toplantısı* of the same year (Waelkens *et al.* 1990b, 288-290) and on the F 2012 internal excavation report by Johan Claeys, published in a more concise version in the 2013 *Kazı Sonuçları Toplantısı* (Claeys & Poblome 2013a).

[1035] Charlier 1993a, 211-213.

[1036] In her two studies Christine Charlier uses deviating values for '*adultus*', '*maturus'*, etc… making it more challenging to compare both populations.

[1037] Dates procured by glass specialist Chris S. Lightfoot (Lightfoot 199, 1893).

8.4.2 Individual burial tombs at site F[1038]

At site F, south of the Hellenistic burial monument (see § 5.4.4) and west of the primary cremation context (see § 6.4.1) mentioned in the preceding chapters, two individual inhumation tombs were uncovered during the 2012 campaign (**Fig. 8.19** and **Attachments 2**/**21**). The similarities in orientation, location, general layout and building techniques between both tombs make it plausible that they should be conceived as part of one plan. However, there are some essential disparities as well.

The burial 'space' of the eastern tomb (**Fig. 8.20**) measured *c.* 2.05 m in length and 0.62 m in width. The side walls were standing 0.38 m tall from floor level to base of the covering vault. The inner faces of the walls and the vault, of which the northern half was preserved, were covered with a grey-ochre coloured mortar. Both the walls and the vault were constructed with mortared medium-sized limestone rubble. The wooden frame that was used to construct the vault left its imprints in the walls and ceiling. The floor consisted of two rows of seven bricks each (brick sizes measure 28 x 28 x 3.5 cm on average) and was laid out after the construction of the walls. The tomb was at least partially dug into the ground.

The skeleton recovered within, most probably an adult woman[1039], was partially disturbed, but still lying more or less in anatomical order. The nails recovered from the inside of the tomb belong to three clearly distinguishable types (**Fig. 8.22**): small rivets, a short and heavily corroded thicker type of nail and a longer, less corroded and more slender type of nail. The presence of the two types of nails can possibly be explained by associating them with respectively the frame for the construction of the vault and with a coffin for the entombment. Even if the vault's scaffolding was torn down before finally closing the tomb, this process might have resulted in several nails (and decayed fragments of wood) remaining in the tomb. The presence of a coffin is additionally suggested by the observation that four fragments of brick were apparently intentionally positioned in the four corners of the tomb in order to lift the coffin slightly from the tomb floor.[1040] Two perfume bottles were added as gifts to the burial (AD 300-350/75[1041]); other possible grave goods might have either been absent or robbed in ancient times. In the layer covering the burial several anthropomorphic terracotta figurine and statuette fragments were uncovered (**Fig. 8.22**).

The dimensions of the western individual inhumation tomb, with an inner length of 2.05 m and inner width of 0.60 m and walls standing 0.40 m tall, were very comparable to its sister tomb immediately east of it. This tomb (**Fig. 8.21**) was also constructed of medium-sized limestone rubble and the northern half of its vault was still preserved. However, there are also some striking differences with the other tomb. In the case of the western tomb no mortar was used in the construction. The southern wall was also different, not being erected in limestone rubble, but consisting of no more than two bricks (28 by 28 by 3.5 cm) positioned upright. The floor of this tomb was laid out with four large tile fragments (measuring up to 53 by 44 cm) and two regularly-sized bricks (28 by 28 by 3.5 cm).

Two individuals were buried inside this 'individual' tomb. This happened consecutively: the human remains of the oldest entombment (adult; sex undetermined) were gathered along the edges of the tomb; the largest bones were aligned along the side of the tomb in the northeastern corner. The oldest burial had to make way for the deposition of a new coffin with the remains of an adult male[1042]. No wooden remains were preserved of this coffin, but some *in situ* nails still evoked its shape. Some parts of this younger skeleton were scattered around

[1038] The description of these tombs is based on the F 2012 internal field report by Johan Claeys. The tombs were also concisely and preliminary published in the 2013 *Kazı Sonuçları Toplantısı* (Claeys & Poblome 2013a).

[1039] Internal 2012 report from anthropologist Katrien Van de Vijver.

[1040] A similar observation was made in the central *hypogeum* of the *naiskos* tomb at site PQ 1, where one of the coffins was positioned on top of a few brick fragments (

Fig. 8.29). On a possibly unrelated note, we also observed this practice at Medieval and post-Medieval cemeteries in the Low Countries, where it was intepreted as an attempt to prevent groundwater from speeding up the process of organic decay. In the case of Sagalassos, we might think of attempts to impede access for scavenging animals or to drain bodily fluids. However, the reason might also be found in a less prozaic explanation: to facilitate the lowering of the coffin onto the floor.

[1041] Date provided by glass specialist Veerle Lauwers.

[1042] 2012 internal physical anthropology report by Katrien Van de Vijver.

and/or decomposed; *e.g.* no remains of the spine, the ribcage or the hands and feet could be recognised *in situ*. However, as was the case with the adjacent tomb, the large bones were encountered in anatomical order.

Fig. 8.19. Georeferenced orthophoto of the two individual tombs at site F, located south of the Hellenistic burial monument (see § 5.4.4), north of some *sarcophagus* remains and west of the primary cremation context (see § 6.4.1). In both cases the northern part of the roof structure of the tombs was still preserved. The large stone covering the western tomb does not belong to the tomb structure. See Attachment 21 for the complete orthophoto.

Remarkably was the observation that the cranium of the earlier entombment appeared to have been carefully positioned on top of the upper legs of the second burial, which should maybe be understood as a sign of the close bond between both deceased or as a token of respect for the older burial. Even though disturbance and/or decay of the smaller bones had been observed in both tombs, it seems unlikely that a larger skeletal fragment such as the skull would have been displaced in such a manner. An additional argument for the closeness of the relationship between both deceased is the fact that the reopening of the tomb was probably already planned during its construction. It is indeed in this light that we can explain the presence of the southern 'wall' of upright bricks. This providential facility would have made it possible to reopen the tomb and slide in a new coffin without having to destroy the vault. The southern end of the tomb probably not coincidentally points downhill, which would have made it more easily accessible – even if the tomb was most probably at least partially buried.

A large blue glass flask was positioned next to the head of the second entombment and a crossbow fibula was still lying close to the shoulder of the body (**Fig. 8.23**). Within the grave also three coins were found, each one dating to the 4th century AD. Around the neck the deceased wore an amulet, a *c.* 6 cm wide sheet of silver folded into a tubular container. Unfortunately, the text (a blessing?) that it probably contains cannot be read since its poor preservation disallows to unwrap the scroll.[1043] From within the layers that filled the tomb several fragments of anthropomorphic terracotta statuettes and figurines were collected. Many similar fragments were found in the fill of the adjacent individual tomb as well as in the layers immediately surrounding these burials. This suggests that these terracottae should be associated rather with ritual activities surrounding the celebration of the dead than with the burials themselves. The finds associated with the burials suggest a date in the 4th century AD, even

[1043] In 2010 a similar silver amulet was discovered south of the Roman baths in Sagalassos in a layer dated to the 7th century AD. The inscription contained a charm directed against the maleficent influence of Selene (especially against the falling sickness thought to be caused by the moon). Six lines can be read as a coherent text comprising instructions copied from a manual that explain how to implement the charm. The remaining lines are magical signs (*charakteres*) and *voces magicae* (Eich & Eich 2012, 5-19).

though some ceramics within the fill of the burials go back to the 2nd century AD. These, however, can be explained as intrusive since the whole terrace had been intensively used for burials and their associated rites since Classical times (see preceding chapters). Indeed, a dump of 2nd century AD ceramics – interpreted as the remains of ritual dining – were encountered immediately north of the tombs.

Fig. 8.20. Eastern individual tomb, view from the south. In each of the four corners of the tomb, on top of the floor tiles, a fragment of brick was positioned. These pieces of brick would have raised the coffin slightly above ground.

Fig. 8.21. Western individual tomb, view from the south. The tomb, though clearly built for an individual, contained the remains of an earlier entombment. Most of the remains of the oldest entombment were collected in a pile in the northeastern corner of the tomb, but the skull was carefully positioned on top of the upper legs of the second entombment, suggesting a close (family?) bond between both burials.

Fig. 8.22. Burial gifts included in the eastern individual burial tomb at site F. The terracotta fragments of anthropomorphic statuettes do not belong to the original grave gifts, but should rather be associated with recurring funerary rites following the entombment.

Fig. 8.23. Burial gifts included in the western individual burial tomb at site F. The terracotta fragments of anthropomorphic statuettes do not belong to the original grave gifts, but should rather be associated with recurring funerary rites following the entombment.

8.4.3 The *naiskos* tomb at site PQ 1[1044]

Final phase of use and post-occupational havoc

While we established in the preceding chapter that the *naiskos* tomb was most probably constructed in the second half of the 3rd century AD (see § 6.3.2 and § 7.4.2), some of the evidence points towards a final phase of use in the late 4th or 5th century AD. This phase appears to have coincided with the intention to refurbish the tomb and surrounding *temenos*. Throughout the centuries following the construction of the tomb the ground inside the *temenos* appears to have been heightened twice, resulting in new walking levels. On top of the last walking level, between the back wall of the tomb and the northern *temenos* wall, we encountered a preparation zone where a large amount of lime was mixed into mortar or plaster (smaller patches of pure sand were encountered as well during the excavation). However, this activity was either suddenly abandoned or was a left-over, after which the lime started drying up (**Fig. 8.24**). The originally viscous lime was probably contained by wooden planks (some nails were found in the immediate vicinity). Inside the lime several imprints might be associated with the implements used in mixing the lime to mortar (**Fig. 8.25**). This level corresponds with the 5th century AD (based on the ceramic assemblage from the underlying and surrounding layers) and might represent a reconstruction/renovation phase of the *naiskos* tomb and/or its surrounding *temenos* that was left unfinished. Indeed, a continuous horizontal joint throughout the *temenos* wall suggests that it was either constructed in different phases. The increase of the walking level inside the *temenos* might have necessitated to heighten the surrounding wall as well.

This refurbishment phase happened around the period in which the tomb received its last entombments. No remains have been encountered of the *sarcophagi* that originally must have stood in the *cella* on benches formed by the vaults of the western, northern and eastern burial chamber. The northern burial chamber could as yet not be investigated and appears to be intact. The eastern and western burial chambers were looted in ancient times (as early as the 5th century AD). The corridor leading to the central burial chamber was still closed off, but might have been visited by grave robbers as well (see further). In the southwestern corner of the burial plot, on top of the 4th-5th century AD walking level, a pottery dump was excavated. The remains consisted exclusively of large sherd fragments of a small type of *pithos*. The uniformity in the material and the fact that this dump came about during the final period of use of the tomb suggests that the pottery might have been used in funerary rituals and/or festivities.

In total, remains of a minimum of four individuals have been encountered within these burial chambers. Three of these were found in dislocated position in the eastern burial chamber and at least one individual was laid out in the central burial chamber. Two burials (the *in situ* human remains in the eastern and central burial chambers) were buried there in the late 4th or in the 5th century AD, based on the remains of the associated burial goods deposited in these chambers. The other two individuals encountered in the eastern burial chamber could not be dated and might represent remains of other burials (from the western burial chamber?) that were dumped there by the grave robbers. The skeletal fragments of these individuals partially were found on top of the *in situ* entombment; if this would have been caused by animal activity, one would expect the *in situ* remains to be more affected as well. Nevertheless, it should not be excluded that they represent older Late Roman entombments that were pushed aside to make way for a newer burial. In any case the attested remains do not represent three centuries of burials; it seems that the original burials – most likely the family that ordered the construction of the tomb – are not represented among the human specimens recovered from this burial lot. In that view the redevelopment of the tomb must be associated with a readmission of a (neglected?) existing monument by a new family.

[1044] The description of this monumental tomb is based on PQ 1 internal excavation reports by Jeroen Poblome (1999-2001) and by Johan Claeys (2012-2013). Additionally, the *naiskos* tomb has been published concisely in the *Kazı Sonuçları Toplantısı* (Poblome 2003, 215-216; Claeys & Poblome 2013b; Claeys & Poblome 2014).

Fig. 8.24. The mortar/plaster preparation area behind the *naiskos* tomb, as seen from the west. The originally viscous lime was probably contained within a wooden frame of which only some nails remain. The area in the forefront might have been the zone where the lime was mixed to mortar with sand (of which patches were encountered) by trampling, scooping or shoveling.

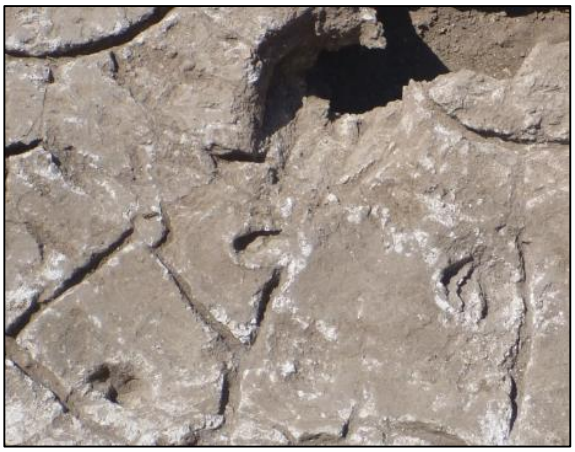


Fig. 8.25. Top view detail of the shrinkage tracks left after the lime started drying out. Also recognizable are the imprints left by some implements (?) used in mixing the lime to mortar.

The phase of reuse of the tomb was apparently short-lived: the tomb might already have been robbed before the 6th century AD (based on the fill of the eastern and western burial chamber) and the dismantling of the upper structure of the *naiskos* tomb was apparently undertaken before or during the 6th century AD. Indeed, the *temenos* clearly had lost its funerary purpose at that time, as demonstrated by the post-occupational pottery dumps (dated to the 6th century AD) that were encountered in the stratigraphical levels immediately topping and surrounding the ruined tomb.

Eastern and western burial chambers

The content of the western burial chamber was limited to some coffin nails and very few human remains. The content of the eastern burial chamber was seriously disturbed as well (**Fig. 8.26**), but most human remains were found intact. Only one individual appeared to be in anatomical position to a certain extent, but the remains of at least two more individuals were encountered in this burial chamber. All three were identified as probably men.[1045] Both burial chambers half filled up with collapse after being robbed. However, the bottom layer (containing all the skeletal material) included a lot of sherds of red slip ware pottery (**Fig. 8.27**). Several vessels appeared to be more or less complete and probably belonged to the original grave gifts. More valuable materials were either looted or absent (see also the very modest burial gifts associated with the undisturbed (?) central burial chamber). The ceramics associated with the burial(s) are dated to the 5th century AD.

Central burial chamber

Since the central burial chamber of the naikos tomb at first sight appears to have been unscathed by grave robbers after its final phase of use and since the sediments that gradually accumulated inside the corridor did not intrude the chamber itself, the human remains and burial gifts inside the tomb were considered to be encountered *in situ* (**Fig. 8.29 a**). Nevertheless, due to perpetual exposure to air and humidity the organic material was very badly preserved: human skeletal material was very fragmentary, brittle and many fragments were found scattered throughout the chamber (probably the work of small scavenging animals) and wood fragments were only preserved when in immediate contact with nails.

The position of seventeen nails in the western half of the chamber gave indications for the position (aligned along

[1045] Internal 2012 report by anthropologist Katrien Van de Vijver.

the west wall) and size (1.70-2.10 m in length and *c.* 0.55 m in width) of a presumed coffin. Still, only very few human remains can be associated with this coffin. In fact, more skeletal remains, however fragmentary, have been encountered outside the tomb, centrally in the burial chamber, than inside the original confinements of the coffin. It appears that the coffin rested on top of four fragments of brick, an arrangement that was also recognised in one of the individual tombs at site F. Twelve more nails were apparently more randomly dispersed over the central and northeastern part of the burial room floor. It seems less likely to ascribe these nails to a coffin nor to remainders of the wooden scaffolding that was used in the original 2nd century AD construction of the vault. If the latter would have been the case these nails would have laid about for several centuries, fragments of wood still attached to them, and not have been removed even when the burial chamber was (re)used in the late 4th century AD. Two different lengths of nails have been recovered from the tomb, with a majority of longer nails, but both types were found throughout the tomb.

Most of the skeletal remains were encountered along the eastern wall of the burial chamber. These remains were still in a recognisable anatomical position, allowing to reconstruct the entombment of an adult, north-south oriented and with the head positioned close to the northeastern corner of the room (**Fig. 8.29 b**). The deceased was either lying on his right side with the legs slightly squatted or fully stretched on its back (the remains suggest the former, but the obvious partial disturbance of the remains has to be taken in account). Observations in the field suggest that the deceased was between 1.55-1.70 m tall.

Fig. 8.26. Orthogonal composite photograph of the human remains encountered inside the eastern burial chamber.

Fig. 8.27. A selection from the finds made in the eastern burial chamber of the *naiskos* tomb, including nails, a polishing (?) stone. The bottom of the dish on the lower left corner was inscribed. The first letter 'K' is visible.

Fig. 8.28. Selection of the finds made inside the central burial chamber of the *naiskos* tomb (see also Fig. 8.29).

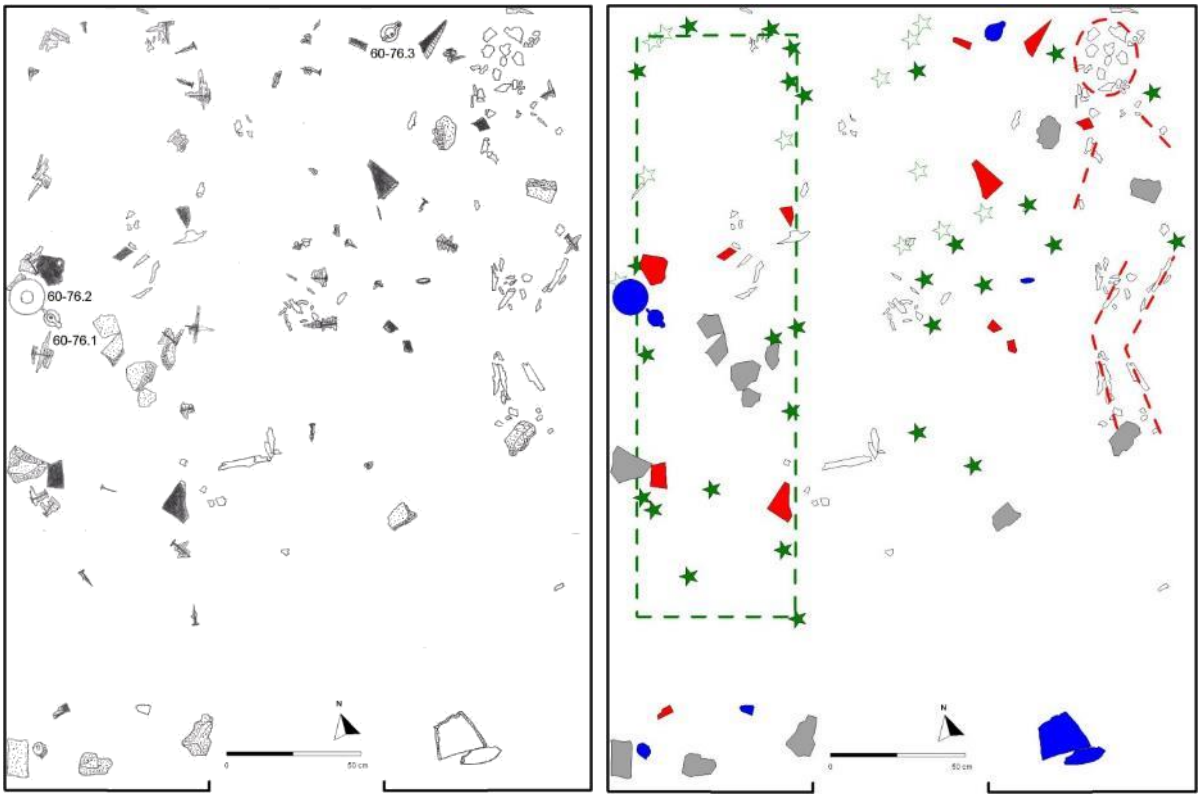


Fig. 8.29 a/b. Field drawing and schematic sketch of the remains found inside the central burial chamber of the *naiskos* tomb. Sketch legenda: full green stars = nails (with remains of wood), open green stars = remains of wood, blue = ceramics, red = brick/tile fragments, grey = limestone rubble, white = human remains. The green dotted line shows the possible reconstruction of a coffin/chest in the west of the burial chamber; the red dotted lines represent the skeletal remains found in more or less anatomical order in the east of the chamber. The finds included two oil lamps and a small bowl (see also Fig. 8.28).

In light of this evidence it seems more likely to suggest that all human remains encountered inside the burial chamber belong to one individual, with most of the skeleton still *in situ* in the eastern half of the tomb and some parts scattered through the rest of the tomb. This also subverts the identification of the rectangular wooden structure along the western wall as a burial coffin. It might have been a chest, rack or shelf with burial goods. If that is indeed the case, than the original ensemble of burial gifts must have been more elaborate and as a consequence the tomb must indeed have been raided in ancient times.[1046]

Between the west coffin/chest and the wall (or originally maybe on top of it) a ceramic oil lamp and low bowl (type 1B130) were found, while in the northeast corner a second oil lamp was found (**Fig. 8.28**). Another roughly worked, perforated ceramic object was found in the opposite corner. All finds were dated in the (late) 4th or 5th century AD.

[1046] The fact that the corridor leading towards this central burial chamber of the *naiskos* tomb was closed off with a slab is no conclusive evidence; also after all archaeological and conservational interventions the burial chamber was once again closed off with its original slab.

8.4.4 The burial compound at site PQ 4[1047]

Introduction

After the initial burials at the PQ 4 compound (**Fig. 8.30**) it seems that more than a century passed without burials: no tombs at the site could be dated between the middle of the 2nd and that of the 3rd century AD. Throughout the excavations a few coins could be dated to the second half of the 2nd century – first half 3rd century AD (coins of Hadrian (AD 121-138, Marcus Aurelius (AD 161-180) and a city coin), but there are no ceramic finds to back up this evidence. The earliest Late Roman entombments – *i.e.* tombs 5, 8 and 15 west of the partition wall – possibly date to the last quarter of the 3rd century AD, based on dates retrieved from coins, ceramic and glass grave goods. However, the same find categories placed the large majority of securely dated tombs in the 4th century AD. Around this time the area east of the partition wall appears to have been favoured, since eight (tombs 9-13, 16 and 18-19) and possibly even ten tombs (adding tombs 14 and 17 on the basis of similar situation, covering and grave goods) were installed in this part of the compound. But also west of the partition wall some clearly 4th century AD burials were attested. The 4th century activity at the cemetery is also reflected by the presence of contemporary pottery and a Theodosius coin in the upper levels of the floor substrate and on top of the floor. The final burials (tombs 11, 16 and 3/20) of this apparently continuous second period of inhumations date to the second half of the 4th century AD, which is why the entire group of Roman Imperial to Late Roman burials are discussed in these paragraphs.

Fig. 8.30. Masterplan and aerial picture of PQ 4. The burial compound was only partially excavated; it extends in western direction. See Attachment 7 for more detail.

The burials were generally aligned parallel to the northern wall, which is probably the main reason for the clear preference for a southeast-northwest orientation of the burials. Sixteen out of twenty instances – thirteen of which with their head facing east – are following this logic. In contrast, tombs 4 and 19 have a perpendicular orientation and tombs 3 and 20 appear to represent reburials into charnels (see further). In almost all of the tombs (except tombs 1, 3 and 17) indications were found for the use of a wooden coffin in which the body of the deceased would have been placed. The wood, only preserved in some of the burials, belonged to coniferous trees (pine or ceder/fir, which is the most common type of wood at Sagalassos). Despite the fact that the coffins

[1047] The information in this paragraph is largely based on the PQ 4 2013 internal excavation report by Peter Talloen en Bas Beaujean and an unpublished physical anthropological study done by Katrien Van de Vijver

had decayed, it was possible in many instances to reconstruct their dimensions because the nails were encountered *in situ*.

The potential of space between the outer walls of the compound and the parallel partition wall was not used to its fullest. While there is actual space for two entombments next to each other (as was the case with tombs 1 and 6), most entombments were positioned in the middle of the space, leaving no room for additional burials with the same orientation to their east/west. This is probably why tomb 19, in the southwest corner of the eastern space, is squeezed in a perpendicular northwest-southeast position between existing tombs and the partition wall. The fact that (almost) no overcutting has been attested between these deep pit features means that the burials must have been (made) visible at the surface, possibly by means of grave markers. However, no evidence for such markers has been found. tomb 5, however, may have been partly destroyed (with removal of the feet) due to the later arrangement of tomb 7. This may be an indication for the existence of different burial traditions, divergent either in time or in social/religious/economic/… background.

The graveyard's population is rather diversely composed: adult men and women (tombs 1-3, 6-8, 10, 12-14, 15-16, 18 and 20), adolescents (tombs 5, 9 and 19), children (tombs 4, 11 and 17) and a neonate (tomb 14) have all been attested among the burials. This seems to favour the identification of the burial plot as a familial initiative rather than a representation of funerary activities by professional/religious/social/… groups (the so-called *collegia*[1048]). This diversification is also spread throughout the burial compound, present on both sides of the partition wall. However, it remains a question what the relationship is between individuals and whether the partition wall represents a significant marker between populations. The analysis of the mtDNA[1049] (mitochondrial DNA, which is passed down the matrilineal line) of the individuals suggests potential familial bonds between certain burials (see further).

The funerary goods were apparently placed inside these coffins, which explains why they were often present very close to and even underneath the skeleton remains. These goods included both purpose made objects (*e.g.* non-functional earrings), objects that were uncommon outside funerary contexts (*e.g.* imported ceramic *unguentaria* and jugs, glass *unguentaria*), as well as personal belongings such as ornaments, a bone spindle and distaff, and an amulet. Judging by the cereal grains extracted from the flotation samples taken from tombs 8 and 12, and the cherry found in tomb 5, the offering of food was also part of the funerary ritual.

The burial pits were mainly backfilled with a mixture of limestone rubble and soil, originating from the same substrata underneath the 4th century AD walking level the features were dug into. Ceramics associated with these fills can mainly be dated to the second half of the 1st – first half 2nd century AD, sometimes more specifically to the period AD 80-120. At two occasions the fill of the burial also contained fragments of limestone *osteothekoi* (tombs 9 and 14), dateable to the Early Roman Imperial age. Only few 4th century AD sherds got mingled with these fills. However, dates retrieved from grave goods justify a 4th century AD chronology for most of the burials (see further). It may be clear that the fill of these burial pits mainly contained sherds from the layers the feature was dug through, which can thus only be considered as *terminus post quem* for the entombments. The presumed floor level associated with these burials was partially covered with ashes and contained a coin dating to the reign of Arcadius (AD 395-401), indicating that this surface was still exposed at this time.

The total absence of 5th century AD material within the complex suggests a phase of abandonment, accompanied by the partial dismantling of the central partition wall. The surrounding walls eventually toppled over due to a seismic event or gradual natural collapse; several blocks of the northern wall collapsed on top of the floor level inside the compound. Subsequently, during the first half of the 6th century AD, the building was filled in with small limestone chips and medium-sized rubble, identified as waste products of nearby stone carving.

[1048] As seen before we use the term '*collegia*' as a standard denomination for a large range of organisations for which many other denominations exists. Peter Talloen, in his 2003 PhD, gives an exhaustive overview of these organisations as they might appear in Pisidian contexts (Talloen 2003, 297-311).

[1049] Analysis by Claudio Ottoni, see Ottoni *et al.* 2016.

The individual tombs east of the partition wall

Tombs 1 and **tomb 6** have been described in a previous chapter (see § 6.4.2), together with the original construction phase of the compound.

Tomb 12 (**Fig. 8.31**), situated immediately south of tomb 6 was cut into the limestone bedrock as a 2.04 m long, 0.60 m wide and 1.25 m deep pit. At the bottom a conifer wood coffin (1.78 m long and 0.39 m wide) contained the remains of an adult male (above 30 years old). The deceased, of which only the long bones and part of the cranium were preserved, was oriented towards the east. No pathologies could be determined. Other than an iron (clothing?) pin and a piece of a bone hairpin no grave goods were retrieved. Cereal grains were extracted from the soil samples taken from the tomb.

Tomb 13 (**Fig. 8.32**), immediately south of tomb 12 and probably dug at the same time (both tombs are only separated by a narrow ridge at a low level), was again dug into the limestone bedrock as a 1.75 m long, 0.41 m wide and 1.50 m deep pit. Contrary to tomb 12, however, the walls of this pit were partly lined with stones. Here the body of a male adult (between 20 and 50 years old), oriented to the west, was entombed in a wooden coffin (1.53 m long and 0.41 m wide). The skull had been crushed and many of the smaller bones had been displaced, possibly by rodent activity. The individual's teeth showed signs of dental enamel hypoplasia (DEH), meaning that the enamel is hard, but thin and deficient in amount. A 4th century AD ceramic jug was present near the head of the deceased, as well as an iron (clothing?) pin.

Tomb 16 (**Fig. 8.33**) , located south of tomb 13, was dug through the substrata as a 2.27 m long, 0.46 m wide and 1.40 m deep pit. A wooden coffin (1.92 m long and 0.42 m wide) contained the remains of an adult male (more than 40 years old), oriented towards the east. The left hand of the deceased was placed over the pelvis, while the right hand was lying along the body; the ribs and spine were largely decomposed. The pathological study of the individual showed evidence for caries, trauma and degenerative joint disease. A ceramic jug placed behind the head and a small bowl at his feet, both dating to the second half of the 4th century AD, while remains of a bronze belt were found over the pelvis (**Fig. 8.49**).

Tomb 9 (**Fig. 8.34**) consisted of a 1.93 m long, 0.52 m wide and 1.12 m deep stone-lined pit dug south to and parallel of tomb 16. Only nails from the coffin (1.75 m long and 0.22-0.38 m wide) could be retrieved. Inside the coffin an adolescent individual (between 14 and 16 years old) was oriented towards the east, the hands placed over the lower part of the pelvis. The pathological study revealed possible signs of an infection. A ceramic jug dating to the 4th century AD was placed behind the head of the deceased, and fragments of a glass *unguentarium* (no date retrieved) were found as well. Both the green discoloration of the teeth / lower jaw and the presence of some scanty corroded metal remains suggest the original presence of a coin in the mouth.

Tomb 10 (**Fig. 8.35**) was a 1.88 m long, 0.38 m wide and 1.26 m deep pit dug through the floor substrata and immediately east of the partition wall. The body of the adult individual (between 20 and 40 years old), oriented towards the west, was once contained within a 1.85 m long, 0.30 m wide and 0.30 m deep coffin. The remains of the skeleton were largely decomposed. The human remains showed signs of caries and trauma. An imported ceramic jug, the same type as that retrieved in tomb 9 and dated to the 4th century AD, was again placed behind the head of the deceased.

Tomb 14 (**Fig. 8.36**) was located immediately south of tomb 10, east of the partition wall and was dug as a 1.80 m long, 0.79 m wide and 0.75 m deep pit. A 1.64 m long, 0.42 m wide and 0.29 m deep coffin contained the remains of an adult female (between 30 and 50 years old), oriented towards the west, and a neonate. The adult female suffered from caries, trauma and degenerative joint disease. The grave goods consisted of a bracelet of glass and faience beads and a bronze (clothing?) pin (**Fig. 8.50**).

Fig. 8.31. Tomb 12, seen from the southwest.

Fig. 8.32. Tomb 13, seen from the southwest.

Fig. 8.33. Tomb 16, seen from the southwest.

Fig. 8.34. Tomb 9, seen from the southwest.

Fig. 8.35. Tomb 10, seen from the northeast.

Fig. 8.36. Tomb 14, seen from the east.

Tomb 11 (**Fig. 8.37**) was a small and shallow pit (0.90 m long, 0.27 m wide and 0.42 m deep) dug close to the eastern wall of the compound. The pit was lined with stones and once held a small wooden coffin with human remains oriented towards the east. These remains belonged to 3-5 year old child, which was buried on its left side. A bronze bracelet and a bracelet with glass beads on the right arm, as well as a necklace with a faience bead suggest it to have been a girl. A small ceramic cup, dating to the second half of the 4th century AD, was placed behind her head (comparable to the one present in the tomb 4, see below), while two glass *unguentaria* (no dates retrieved) were present on either side of the head.

Fig. 8.37. Tomb 11, seen from the southwest.

Fig. 8.38. Tomb 17, seen from the southwest.

Fig. 8.39. Tomb 18, seen from the southwest.

Fig. 8.40. Tomb 19, view from the southeast.

Fig. 8.41. Tomb 4, view from the south.

Fig. 8.42. Tomb 8, view from the southwest.

Also **tomb 17** (**Fig. 8.38**) was a small pit (0.77 m long, 0.40 m wide and 0.20 m deep) dug immediately south of tomb 11 in the southeastern corner of the complex. It contained the very fragmentary remains of a child, about 2-4 years old, oriented towards the east. The child wore an iron bracelet with a blue bead around its arm and a necklace with a faience bead around the neck. The absence of nails suggests that it had been buried without a wooden coffin.

Tomb 18 (**Fig. 8.39**), situated south of tomb 14, consisted of a pit (1.70 m long, 0.44 m wide and 0.78 m deep) lined with rubble stones. It contained a wooden coffin (1.50 m long and 0.44 m wide) with the remains of an adult (between 30 and 50 years old) oriented towards the east. The bones of the skeleton were very fragmented and showed signs of degenerative joint disease and trauma. A bronze coin dating to the reign of Licinius (AD 315) found in the mouth of the deceased was the only grave gift.

Tomb 19 (**Fig. 8.40**) was a rather shallow pit (1.90 m long, 0.57 m wide and 0.45 m deep) situated immediately east of the partition wall, south of tomb 14 and east of tomb 18. This was the only tomb to be oriented in a northwest-southeast fashion, apparently to fit into the remaining space between the existing wall and earlier tombs. The burial contained the remains of a male adolescent (16-17 years old), oriented to the north and with arms placed alongside the body. The pathological study revealed degenerative joint disease and trauma. No burial gifts were found accompanying the skeleton.

The individual tombs west of the partition wall

Tomb 2 has been described in a previous chapter (see § 6.4.2),), together with the original construction phase of the compound.

Tomb 4 (**Fig. 8.41**) was dug as a northwest-southeast oriented pit (length: 1.25 m, width: 0.48 m, depth: 0.94 m) along the northwestern profile of the excavation trench. A coffin must have been used, as several nails were found in the burial deposit (no dimensions could be reconstructed, however). The tomb contained the skeleton of a child aged 4-5. One glass *unguentarium* (AD 50-350/75[1050]) placed near its left knee and a small ceramic bowl at its feet (datable to the second half of the 4th century AD) were present as funerary gifts, while a bronze coin dating to the reign of Constantius II (AD 337-341 AD) was placed inside the mouth of the child.

Tomb 8 (**Fig. 8.42**) was dug immediately south of tomb 4 as a 1.72 m long, 0.35 m wide and 1.16 m deep pit lined with stones and tile fragments. A wooden coffin (of which only the nails survived) contained an adult female (between 30 and 60 years old), oriented towards the east. The remains showed signs of caries and degenerative joint disease. A bronze coin found in the mouth of the deceased could be dated to the reign of Probus (AD 277). Two glass *unguentaria* (AD 50-350/75 AD) were placed on either side of the skull and a set of golden rosette-shaped earrings was retrieved near the head. One of the earrings was incomplete, again suggesting that some of the burial gifts were purpose-made. Cereal grains could be extracted from the flotation soil samples taken from the tomb.

Tomb 5 (**Fig. 8.43**), with a length of 0.91 m, a width of 0.51 m and depth of 1.04 m was located centrally in the western half of the funerary compound. The poorly preserved remains of a 10-12 year old adolescent was entombed in a wooden coffin, of which only some nails are preserved. Of the body, oriented towards the east, only some long bones survived; the skull had been crushed by a large stone and the feet were missing. The pathological study revealed a dental infection and evidence for metabolic disease. Two glass *unguentaria* (AD 50 -350/75 AD) were placed on either side of the head of the deceased (**Fig. 8.51**). A bronze coin dating to the reign of Maximian (AD 295-299) was encountered in the mouth. A cameo carved in chalcedony and depicting the head of Medusa must have served as an amulet, since it was found just below the head. Probable fragments of cherry (*Prunus avium/cerasus*) were identified from flotation samples taken from the tomb.

Tomb 15 (**Fig. 8.44**) was uncovered between tombs 5 and 8. The pit measured 2.37 m in length, 0.46 m in width and 1.16 m in depth. The pit was lined with stones and contained the remains of a wooden coffin (1.96 m long, 0.30-0.42 m wide, 0.29 m deep). The coffin contained the well preserved remains of an adult man (between 30 and 60 years old) who had suffered from a dental abscess, caries and antemortem tooth loss, from arthritis in the hands, metabolic disease and trauma. He was oriented towards the east and his hands were placed on top of the pelvis. Two glass *unguentaria* (no dates retrieved) had been placed on either side of the head and a bronze coin, dating to the reign of Diocletian (285-289 AD), was retrieved from the mouth of the deceased. Remains of an iron ring were also found (**Fig. 8.52**).

Relatively early dates, in comparison with the surrounding tombs, have been suggested for tombs 5, 8 and 15, mainly based on the late 3rd century AD coins among their grave gifts. But also the overcutting of the burial by feature tomb 7 (see below) is indirect evidence for a relatively early date for the burial.

[1050] Dates for the glass finds were provided by glass specialist Veerle Lauwers.

Fig. 8.43. Tomb 5, view from the south.

Fig. 8.44. Tomb 15, view from the west.

Fig. 8.45. Tomb 7, view from the west.

Fig. 8.46. Tomb 2, view from the west.

Fig. 8.47. Tomb 3 (charnel?), view from the east.

Fig. 8.48. Tomb 20 (charnel?), view from the south.

Tomb 7 (**Fig. 8.45**) was located immediately to the west and in continuation of tomb 5. This is the only example within the compound of an entombment that might have cut through an earlier tomb (the absence of the feet in tomb 5 might be explained as such, see above). The stone-lined pit of tomb 7 measures 2.02 m in length, 0.40 m in width and 1.10 m in depth. The burial contained the remains of an adult male (more than 40 years old), about 1.70 m tall and suffering from caries. He was buried inside a wooden coffin and his body was oriented to the west. While the lower part of the skeleton was relatively well-preserved, the upper body was largely decomposed and the skull had been crushed. No grave goods were found.

Tomb 3 (**Fig. 8.47**), situated immediately south of tomb 2, was a somewhat more peculiar shallow and small burial pit (length: 0.73 m, width: 0.52 m, depth: 0.25 m) lined with both rubble stones and tuff blocks. Only few human remains, belonging to an adult (between 20 and 40 years old), were preserved in the burial. The individual's teeth showed signs of dental infection and caries. A human skull was found placed on top of the

bones which were roughly arranged. The (re)burial must have occurred after the corps had already decayed. Both the size of the pit (obviously unfit for the deposition of a fully stretched adult) and the arrangement of the human remains suggest that this pit is a charnel, intended to reinter the excavated remains of an individual that had its primary entombment elsewhere.

Tomb 20 (**Fig. 8.48**), immediately to the east of tomb 3, is a similar pit feature of limited dimensions, with a length of 0.70 m, width of 0.51 m and depth of 0.37 m. Originally it was thought to be a separate tomb, but only the skull and part of the right arm of an adolescent (12-13 years old) were retrieved. Judging by their position and orientation, these remains could be related to the disturbed burial at adjacent tomb 3. In that case, however, there would be a superfluous skull, which is why the identification as a second charnel is more plausible. Several nails indicate the presence of a wooden coffin, but no other grave goods were found.

Fig. 8.49. Burial gifts associated with tomb 16.

Fig. 8.50. Burial gifts associated with tomb 14.

Fig. 8.51. Burial gifts associated with tomb 5.

Fig. 8.52. Burial gifts associated with tomb 15.

Discussions

There is a remarkable difference between the depths at which the individuals are buried, ranging from less than 0.20 m to more than 1.50 m below the 3rd-4th century AD walking level (**Table 8.2**). Erosion had rather little influence on this variation, since the then walking level could easily be reconstructed throughout the site, being buried subsequently underneath a thick and protective dump of stone chippings. Even though the sample of 16 burials is rather small (the two constructed tombs 1 and 6 and the supposed charnel tombs 3 and 20 are not included in the table), a pattern seems to emerge, which can be tentatively explained both as gender-related and as age-related.[1051] The younger children are clearly buried less deep than the adolescents/adults (on average 0.50 meter *vs*. 1.05 m). Among the adults there appears to be a significant difference between female burials (on average 0.77 m deep) and male burials (on average 1.26 m deep). This might be an additional factor to classify the two as yet undetermined adult burials, with the individual at tomb 18 more in line with the 'female depth pattern' and the individual at tomb 10 with the 'male depth pattern'. The less clear pattern among adolescents (with undetermined genders) might be explained if they were indeed regarded as 'adults' in the funerary rites. If that is the case, then tomb 19 would more probably be dedicated to a girl and tombs 5 and 9 to boys. However, the difference in depths might also be at least partially explained by the simple observation that it is harder to dig a small grave as deeply as a large grave, which is why smaller and younger corpses would occupy more shallow graves.[1052]

The alignment of the burials does not seem to be evoked by a ritual or religious dogma. A southwest-northeast orientation is generally retained, but this might be easily explained by the orientation of the building itself. The compound was constructed on a very steep (*c.* 40 %) slope. The north and south walls follow the contour lines of the ridge and the east and west walls are built perpendicular to these. The burial pit features follow the contours as well. Indeed, the two burials transgressing this general 'rule' appear to have been adapted to space constraints, putting practical reasons once more over other possible factors. In the case of the perpendicularly northwest-southeast oriented tomb 19 it could even be established that the body of the deceased followed the slope of the terrain, descending towards the south.

Depth burial pit	Child	Adoles.	Adult Female	Adult Undet.	Adult Male
0-20	17				
20-40					
40-60	11	19	2		
60-80			14	18	
80-100	4				
100-120		5/9	8		7/15
120-140				10	12/16
140-160					13

Table 8.2. In this table the depths of each burial pit is weighed against a classification based on gender/age of the buried individual. The oldest burials on the site (constructed tombs 1 and 6) and the two presumed charnels (tombs 3 and 20) are not taken into the equation. Note that the gender of the children and adolescents was not determined.

[1051] The notion of burying men and women at different depths is a known phenomenon in certain burial traditions, both in the Islamic and Christian world (*e.g.* Nestorianism). Such a notion is also adhered by the local Ağlasun population. However, in these specific cases it is the women that are buried deeper than men. Likewise, differences between child and adult burials are also attested among different cultures and in many cases upheld till present day. The reasons behind the difference in treatment might be of a practical, religious, moral,… matter. The coffin size might decide whether a burial is treated as an adult rather than a child (the principle of four feet (1.22 m) is sometimes mentioned).

[1052] Barber & Bowsher 2000, 83.

The mtDNA analysis of samples taken from every individual provided us with some arguments to suggest potential family bonds between (some of) the burials in the PQ 4 compound (see **Attachment 7**). The results revealed clusters of shared haplotypes, which might be indicators for shared familial bonds (through maternal lineage).[1053] The strongest case is presented by burials 12 and 13, who both share haplotype X2b and who were buried within a single large burial pit. A third individual sharing the haplotype (burial 9) was buried 2 m southeast of the first two, only separated by one other burial. The adjacent burials 10, 14 and 18 share haplotype K1a, as well as a fourth individual (burial 3) encountered 2 m to the southwest. A third group, constituting of burials 5 and 8, share haplotype T1a1'3, but does not seem to form a specific cluster.[1054] Similar clusters have not been identified at site F, but this can be explained by the more limited amount of samples, the differences in burial traditions, the larger chronological dispersion and the lower rate of success in determining the haplotype. It is also worthwhile reminding that haplotypes derived from mtDNA do not entail any information on potential bonds between man and wife or between father and offspring.

[1053] Since there is a limited amount of haplogroups (at the level of precision attained for the Sagalassos specimens this would be less than 100), it should be kept in mind that sharing the same haplogroup does not necessarily signify familial ties in the social sense.

[1054] Personal communication with Peter Talloen and Sam Cleymans, based on the results from Claudio Ottoni's research.

8.5 Communal presence

8.5.1 The site of the PQ 2 *schola*[1055]

There are no indications that the presumed *schola* at site PQ 2 (**Fig. 8.53**) was still in use after the 3rd century AD. At the latest in the first half of the 5th century AD the building must have fallen in disarray during or after which it got partially dismantled. The lack of limestone rubble and possible roof elements in the fill of the building indeed suggests that the walls of the complex were intentionally taken down all around to a certain height (*c.* 1583.3 m asl). Several larger limestone blocks, some of which (fragments of) ashlars, were stacked rather neatly along the remains of the eastern wall of the building (**Fig. 8.54**). The blocks are resting on top of a late fill; the building must have been out of use at this time. There is no use of a mortar agent and there are no further indications that these blocks served a structural purpose.

Fig. 8.53. Masterplan and aerial picture of site PQ 2. The post-occupational constructions are shaded in green. The earlier (re)construction phases are described in the preceding chapters. The aerial picture more clearly shows the so-called 'robbers' trench' (shaded in red) that was dug to recover stones from the western wall. See Attachment 5 for more detail.

The abandoned site, already to a large extent backfilled with soil, was subsequently used as a dump for mainly refuse from nearby pottery workshops (**Fig. 8.55**). The large amounts of production waste, such as kiln spacers and misfired pottery, but especially the presence of terracotta figurines and moulds for ceramic *oinophoroi* suggests that the neighbouring coroplast workshop, 35 m more to the east, used this site as a dump during the late 5th - early 6th century AD. The dump actually consists of several individual waste heaps, one of them starting at the top of the eastern wall and fanning out towards the west. The other major dump seemed to follow the northern half of the western wall of the building.

[1055] The description of the building's history is mainly based on internal field reports by Johan Claeys (2011 and 2014), Sven Van Haelst, Merve Özkılıç and Liesbeth Claessens (2012) and Peter Talloen and Bas Beaujean (2013). The building has been published preliminary in consecutive *Kazı Sonuçları Toplantısı* reports (Claeys & Poblome 2012b; Van Haelst *et al.* 2013; Talloen & Beaujean 2014a).

West of western wall of the building a stratigraphy of stone-rich deposits was uncovered, interpreted as possible substrates for consecutive roads or squares (**Fig. 8.56**). The geophysical survey indeed suggests that this is the location where the street leading into the Eastern Suburbium from the city centre splits in two section running respectively north and south of this building (see **Attachment 12**). However, these deposits are situated well above the floor level of the *schola* and thus are probably remains belonging to a later phase. Sherds from these layers suggest a date in the late 5th century AD.

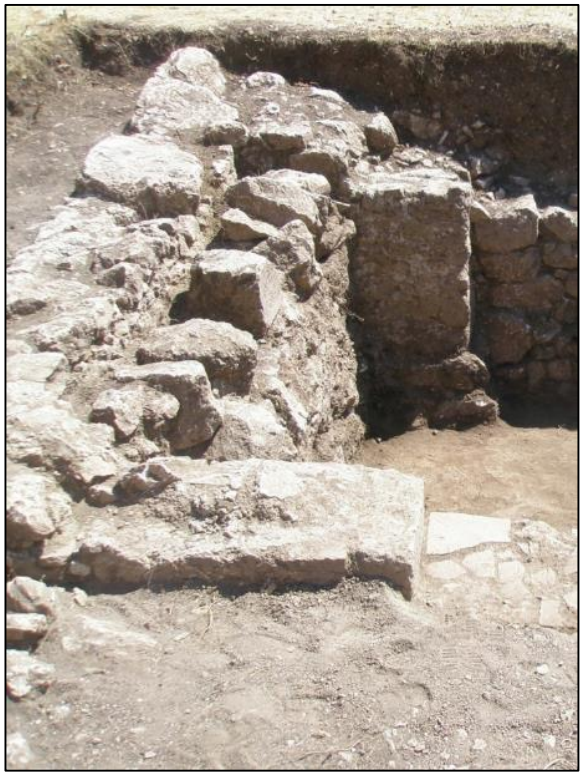


Fig. 8.54. A section of the eastern wall of the *schola*, view from the north. Along the inside of the wall a regular line of large limestone blocks can be discerned. These loose blocks are positioned on top of a late earthen fill and do not seem to have a structural purpose.

Fig. 8.55 a/b. Almost immediately below the present-day walking level a 5th-6th century AD dump is encountered throughout large parts of the PQ 2 site. The dump(s) cover the remaining parts of the walls and thus postdate the operational phase of the building.

Sometime during the following decades, an irregular pit with a width of 2.25 m, a length of 7.4 m, and a maximum depth of 1.25 m was dug through the dumps in order to reach the west wall and to recuperate stones as *spolia* (**Fig. 8.57**). The wall was 'quarried' to a depth of 1 m below the preserved height elsewhere. This activity can most probably be identified as a robbers' trench. The pit was later back-filled with the previously excavated material, including many pieces of mortar, bricks and small limestone rubble and chips from the original wall. The presence of many fragments of terracotta water pipes suggest that a water channel was destroyed as well during this process.

After the abandonment and dismantling of the building, another structure was erected in the southern part of the site, which will described in more detail in the next chapter (see § 9.2.2). Only a part of this structure has been excavated and the exposed; the tangled walls do not provide any indications regarding their function. These walls are constructed in a more improvised way, using small and medium-sized limestone rubble without the use of mortar. Part of the east-west oriented wall could be associated with a walking level north of it that could be dated to the middle of the 6th century AD.

Fig. 8.56. West of the western wall of the *schola* a deposit rich in small limestone rubble is interpreted as the possible substrate for a street or small square.

Fig. 8.57. View from the south on the west wall of the *schola*. The excavation follows the contours of a robbers' pit; the stones of this wall had been quarried in order to be reused as *spolia*.

8.5.2 The site G complex and adjoining monumental structures

The datable material point towards a 4th century AD date for the abandonment of the complex (at least at one spot – the northeastern test trench – a dump dated to the period 325-375 AD was encountered within its walls). The subsequent dismantling operations are dated to the late 4th or early 5th century AD, based on the ceramic assemblages of the associated layers. The standing walls were most likely erected entirely in mortared limestone (in contrast to the workshops, which most likely had mudbrick walls on stone plinths), but the lack of limestone debris clearly shows that the complex was deliberately dismantled. Afterwards the area – especially the northern part – appeared to have been used as a dumping ground for some time into the first half of the 5th century AD. The dumps consisted of huge amounts of ceramics, but also of many faunal remains (both animal carcasses and slaughtered animals), numerous coins, hair pins, fragments of glass vessels, iron knives, *etc.* Such an assemblage of *instrumentarium domesticum* sets the dump apart from most of the typical artisanal dumps in the Eastern Suburbium. The occupational debris was clearly mixed with potters' refuse as well, since it was mixed with large amounts of kiln fragments, spacers and misfired pottery, mainly dated to the late 4th and early 5th centuries AD. On top of this discarded material, a later occupational phase was recognised in the form of two badly preserved rubble walls which had a different orientation than the walls of the complex. The absence of 6th-7th century AD material suggested that these late interventions were erected not long after the dumping activity. The observation that this rather prime location in the Eastern Suburbium was actually never intensively reoccupied after its late 4th century AD abandonment seems to indicate that competition for space in the Eastern Suburbium was not an issue anymore from the 5th century AD onwards.

8.6 Waste dumping activities

8.6.1 Waste management throughout the Eastern Suburbium

Waste dumping appears to have been an ongoing practice in the Eastern Suburbium at least since the development of the artisanal quarter in Augustan times. Therefore a more detailed study of the waste management in Sagalassos is being set forth in § 11.2.2 (where we also set out our views on the different definitions for 'dumps', 'landfills' and 'deposits'). However, it is clear that waste dumping would be an accumulative issue, meaning that it would amount to an increasingly important factor in the competition for space in the *proasteion*. While dumps and landfills could form part of an intentional levelling or terracing operation, there are few indications that this was the case in the Eastern Suburbium, where most of the infrastructural interventions were either limited in scope (workshops), constructed on fairly level ground (the 'monumental' southwest quarter) or could be accomplished by shifting soil/scree (northern terraces). There are exceptions, such as the efforts in levelling the PQ 3 area (by backfilling the clay mining pits) and the layout of the road throughout Elmalı Pınar (for which large amounts of production slag appear to have been used as an aggregate in the road surface). Likewise, the presumed landfill of the Central Depression might have served in an effort to level and drain the uneven terrain left after the clay mining activities, but the geophysical surveys also revealed that this flat terrain was never occupied by permanent structures. The area was probably remained more convenient as a large-scale (communal?) dumping ground. By far most of the large-scale dumps encountered throughout the Eastern Suburbium appear to have constituted the final phase of use at a site, as they effectively inhibited any further (re)development of the grounds. This is also obvious from the amount of antique waste visible at the surface throughout the *proasteion*, while in contrast only very limited architectural remains are outcropping above the topsoil. This accumulation of waste dumps would gradually take more effect on the *proasteia* of the city – where there were, in contrast to the city centre itself, probably little to no restrictions in waste management (see § 11.2.2) – and by Early Byzantine times, most of the sites that have been excavated in the Eastern Suburbium were at least partially covered in waste dumps:

- **Throughout Eastern Suburbium**: (almost) complete animal carcasses have been encountered at various sites throughout the *proasteion*, *i.c.* remnants of non-consumed animals.[1056] This is a clear indication that the Eastern Suburbium – and possibly also the other *suburbia* of Sagalassos – were considered as appropriate locations for the disposal of dead animals.
- **Site F**. The retaining walls of the terraces were apparently no longer intensively maintained by Early Byzantine times, as the terraces along the northern edge of the *proasteion* appear to have been gradually engulfed in natural screes before the main 7th century AD earthquake. Parts of the lower terraces were even covered in ceramic dumps as early as the 3rd century AD (**Fig. 8.60**), a practice that would be replicated in later centuries.
- **Site D**. It appears that the site was abandoned relatively shortly after the final use of the tomb, as the tomb's *temenos* and surrounding slopes became a dumping ground for pottery production waste from the 5th century AD onwards.
- **Site G**. After the dismantling of the standing walls of the site G complex, the northern parts of the site appear to have been reoccupied by extensive dumps, containing a higher amount of domestic refuse than could be attested for most other dumps within the Eastern Suburbium. This waste was probably not (only) originating from the Eastern Suburbium activities itself, but might have been brought in from the city centre and/or the nearby Eastern Residential Quarter. This would also explain why these dumps have only been attested in the three northern trenches at site G, since this would be the most easily accessible obsolete terrain, immediately within reach from the main traffic axis leading in from the city centre.
- **Site PQ**. This site was the obvious exception on the general observations, since the coroplast workshops were still fully operational unto the middle of the 6th century AD. The waste generated by the potters

[1056] Van Neer & De Cupere 1993, 227; De Cupere 2001, 69-70.

was most likely dumped nearby, as could be attested on the PQ 2 site. However, dumps of animal carcasses retrieved from the layers topping the workshop remains clearly show that upon abandonment, in the second half of the 6th century AD, the area was yet used as a dumping ground.

- **Site PQ 1**. While the Late Roman workshop was still active, the adjacent *naiskos* tomb appears to have been abandoned and even partially dismantled by Early Byzantine times. Around the same time, the *temenos* of the tomb and large parts of the surrounding slopes of the Central Depression (**Fig. 8.59**) became a dumping ground for production waste from nearby pottery workshops.
- **Site PQ 2**. Already during the period of use of the site, waste originating from the site itself (leftovers and waste generated by the banquets) were dumped against the outside of the eastern wall of the building. After the final banquet in the PQ 2 *schola* (dated to the final quarter of the 3rd century AD), the site appears to have been never fully reoccupied. In fact, the remains of the feast appear to have been immediately covered by a thick layer of soil and refuse. There were some minor modifications to the layout of the structure, but at least by the 5th century AD the ruins themselves were exploited as a stone extraction site. Around the same time, large-scale waste dumping of pottery production waste started to cover the remainders of the *schola*.
- **Site PQ 3**. At this site, which is located at the edge of the Central Depression's clay quarrying activities, it could be observed how clay mining pits were already being refilled with soil and waste in the 2nd century AD, most likely in order to level the terrain for the (re)development of the main road and the burial compounds. In this particular case waste dumping should be considered as an effort in order to make land once again available for infrastructural development.
- **Site PQ 4**. Upon abandonment, the burial compound was used as a dumping ground for stone chippings in the first half of the 6th century AD (**Fig. 8.63**). The production waste most likely originated from an as yet unidentified quarry upslope.
- **Central Depression**. Despite the size of this presumed dumping ground, we do not possess a lot of concrete evidence for the chronology of the dumping activities and the type of refuse that would have been dumped in this area. Most of the terrain is covered by thick, post-occupational erosional layers. Geophysical surveys, boreholes as well as test trenches, however, suggest that the former clay mine would have been reused as a landfill. While a small part of the mine might still have been in use to quarry clays for the slip layer of the locally produced tablewares, the rest of the grounds might have served as a massive landfill as early as Augustan times. While the original intention might have been an attempt at draining and levelling the terrain, the available data show that the only infrastructural interventions in the central area were for the layout of the main road into the *proasteion*. It is likely that this convenient location would have remained in use as a landfill throughout the occupational history of the Eastern Suburbium.
- **Southeast limestone quarry**. Information retrieved from an unpublished borehole in the middle of the quarry floor of the large limestone quarry in the southeastern corner of the Eastern Suburbium suggests that this area might have been in use as a landfill as well.[1057] This would have been possible once the quarry was no longer in exploited, which might have meant from the late 2nd or early 3rd century AD onwards (based on the petrographic study on building material from ashlar monuments throughout the site). The quarry activities themselves also resulted in huge amounts of waste in the form of stone chippings (coming from the extraction of the stone as well as from the partial finishing of the stone in the quarry), which accumulated into two huge crescent shaped stone dumps on either side of the quarry floor.
- **Stone dumps within the Eastern Suburbium and Eastern Necropolis**. There are several areas within the Eastern Suburbium and Eastern Necropolis that are covered with the typical stone chippings resulting from stone working and carving. Dumps covering large parts of the slopes immediately to the south of the *proasteion* (**Fig. 8.62**) are probably originating from the carving of *sarcophagi* in the

[1057] Personal communication by Patrick Degryse.

immediate vicinity (probably on top of the mountain ridge, where several *in situ chamosoria* can be spotted as well). Similarly, a dump of stone chippings near the southeast corner of the Theatre might have resulted from the finishing of the ashlars, quarried in the southeast limestone quarry, used in the construction of the building. Many more piles of limestone rubble can be encountered throughout the Eastern Suburbium. These, however, do not consist of the typical stone chippings but of actual medium-sized limestone rubble, most likely accumulated by farmers in post-occupational times in an attempt to reuse the lands for agricultural purposes.[1058]

- **Pottery dumps throughout the Eastern Suburbium**. The first systematic survey of the Eastern Suburbium in 1989 resulted in the mapping of a series of sites where large pottery dumps were outcropping at the surface[1059] (**Fig. 8.58**), two of which would later be included in excavations (sites D and F).

8.6.2 Waste dumps and the competition for space

It appears that by the 6th century AD most of the terrain within the Eastern Suburbium would have been covered by landfills and smaller waste dumps. However, even though with time the inherently growing issue of waste management would become a more decisive factor in the organisation and further development of the Eastern Suburbium, it appears that the competition for space was no longer a determining issue by Early Byzantine times. There are few indications within the Eastern Suburbium for the reoccupation of plots of land after the 4th century AD, suggesting that there was enough available space for ongoing and new activities. This was clearly different in Roman Imperial times, when there were various examples of lands changing purpose: agricultural/burial grounds into workshops (site F), clay quarries into burial plots (PQ 3) and landfills (Central Depression), workshops into burial plots (PQ 1), terraced land taken up by the aqueduct, *etc.* It appears that before the construction of the church at site PQ 5, the last major development encountered within the excavation trenches was the layout of the coroplast workshops complex in the centre of the *proasteion* in the late 4th century AD.

There are several possible and complementary explanations for this observation. While there is no reason to suggest a decline in artisanal activities from Late Roman times onwards, we already established that workshops from Late Roman times onwards started to encroach into previously exclusively residential and public quarters (see § 8.3.3), *e.g.* the coroplast workshop east of the Library. This would to a certain extent relieve the Eastern Suburbium from potential stress on available space for the expansion or continuation of its artisanal presence. Similar observations have been made for burials and waste management from the 5th century AD onwards. Christian burial practices would not only imply the possibility of intramural entombment, but would in many cases also consist of simple pit inhumations, taking up relatively limited space. Waste would also be allowed to accumulate or be deposited in abandoned plots in more central parts of the city, instead of being towed into the suburban and rural areas.

Another part of the explanation might be found in the relinquishment from the late 3rd century AD onwards of the communal structures in the southeastern part of the Eastern Suburbium, resulting in more or less a quarter of the area within the *proasteion* becoming available for other activities. The observation that this opportunity was only seized to a limited degree (pottery kilns southeast of the coroplast workshops and south of the site G complex; waste dumps in the north of the site G complex) seems to signify that by that time relatively little additional space was needed for new infrastructure. Even if it cannot be excluded that the seemingly fallow parts of those vacant areas were occupied for purposes that left no traces on the geophysical surveys (agri- and horticulture, simple pit inhumations and cremation contexts, *etc.*), it is more likely that the occupation of the Eastern Suburbium gradually became less dense.

[1058] A large amount of these piles were deliberately accumulated on top of and next to outcropping architectural remains, since these places already partially consisted of collapsed rubble and were thus useless for agriculture. It is thus not a coincidence that many of these piles are

[1059] These concentrations of pottery production waste were numbered with letters, among which the later excavated sites D and F, but not site G (which was preliminarily named after the presumed 'Gymnasion'). The data remain unpublished (personal communication from Marc Lodewijckx).

Fig. 8.58 (above). Sample of pottery sherds collected from the dump covering large parts of the surface of the eastern slopes of the Central Depression.

Fig. 8.59 (right). View from west on the 1997 excavation trench 2 on the eastern slopes of the Central Depression.

Fig. 8.60. Detail of the eastern profile of the southern trench of site F. Immediately below top soil level a lenzing (L10) can be discerned consisting almost entirely of 3rd century AD pottery sherds, with very little interference from soil.

Fig. 8.61 (above). Small deposit of 4th century AD (Roman Imperial) sherds in the southwestern corner of the *temenos* surrounding the *naiskos* tomb. This dump consisted exclusively of large sherd fragments of a small type of *pithos*, suggesting its use in funerary rituals (libation?).

Fig. 8.62. View from the south on large dumps of stone chippings on the slope facing the entrance of the Central Depression. This dump probably resulted from *sarcophagus* carving further uphill.

Fig. 8.63. View from the southwest on the western profile of the excavation trench inside the PQ 4 burial compound. A huge amount of stone chippings, were dumped into the abandoned compound through a gap in the northern wall.

9 EARLY BYZANTINE TIMES AND THE 'AFTERMATH'
From the second half of the 6th century AD onwards (*c.* 550 AD - today)

9.1 Introduction

This chapter coincides with the Sagalassos Red Slip Ware (SRSW) phase 9. For an overview of the relation between different chronological referencing systems, see **Tables A-B** in the 'General Remarks'.

While the previous chapters strictly followed functional paragraphs covering respectively infrastructural, artisanal, funerary and communal features, the current chapter deviates from this subdivision. Similarly to the time frame preceding the Hellenistic period, there are several reasons why from the second half of the 6th century AD onwards the term '*suburbium*/*proasteion*' no longer covers the content of the study region: changes in the urban texture of the city centre and changes in the Eastern Suburbium itself (see further). This developments already find their root in the previous period, and a more definite rupture will occur with the 7th century AD earthquake. We do not have indications for ongoing artisanal activities in the Eastern Suburbium from the second half of the 6th century AD onwards and the communal presence is limited to a short-lived church. The funerary presence is limited to one burial, associated with the church. It is likely that from the 6th century AD onwards agriculture and pastoralism once again gained a foothold in the area, and in the post-earthquake era they would be the only activities attested in the study region.

This chapter covers those gradual changes. In § 9.2 we present the infrastructural remains that can be attributed to this period: the Early Byzantine street network and water infrastructure (see § 9.2.1) and the newly erected walls that follow an orientation strongly deviating from the previous periods (see § 9.2.2). The final period of Sagalassos is obviously shaped by the rise of Christianity (see § 9.3.1), which externalises in the Eastern Suburbium in the PQ 5 church erected high on the eastern ridge of the Eastern Suburbium (see § 9.3.2 and § 9.3.3). Finally, the 7th century AD earthquake would lead in the 'Aftermath'. From this point onwards there are no longer any indications for permanent human presence in the area. There are, however, temporary activities that resulted in semi-permanent features that can be identified as a pastoral campsite (see § 9.3.4).

The information for these periods is less drawn from excavations. Only site PQ 5, with the Early Byzantine Church, fully overlaps with SRSW Phase 9. Additional information could be gathered from the upper strata at site G, PQ, PQ 1 and PQ 2. Other data were provided by field surveys, geophysical surveys, aerial photography, physical anthropology and material studies. Once again the research is indebted to the valuable work done by cartographers, geographers and geologists who studied and mapped the area in question.

As is the case with the other chapters of Part 2 of this thesis, the conclusions will be reserved for Ch. 10, in which the data presented in detail in these chapters can be reflected not only against the wider geographical and historical setting, but can also be understood in a more trans-chronological framework.

9.2 Early Byzantine infrastructure

9.2.1 The street network and water infrastructureμ

The street network

Not a lot is known on the condition of the road and water infrastructure in the Eastern Suburbium after the 4th century AD. Most of the information is inevitably based on the blueprint of the suburban quarter that has been produced by combining the data from a variety of research techniques, but which in many cases yielded no or insufficient chronological information (*e.g.* geophysical surveys, aerial photography or field surveys). The blueprint does provide us with a rather detailed overview of the division of the quarter into irregular, but clearly defined construction blocks interspersed with roads and alleys. The consistency of this map suggested a certain level of continuity for this general layout, which has been confirmed in each individual excavation and which should not come as a surprise. Despite the organic development of a typical suburban quarter, once a road or even an alley has proverbially put itself on the map, it is very likely for it to be kept up, as it serves a multitude of not necessarily interdepending activities and probably privately owned plots. Changing an established road would have required a large-scale and top-down reorganisation of the whole quarter, which would have been only desirable if the necessity for it arose (*e.g.* urban expansion). Once the road network had taken shape, it would keep on defining the layout of the quarter. The question is thus not why the communal infrastructure of this suburban location appears to have been consistent throughout the subsequent centuries, but rather why it appears to have been subjected to change in the final phase of use of this quarter.

That is at least the impression that is hinted at by the limited amount of available information. All the central excavations of the Eastern Suburbium, *i.c.* site F, PQ 2, PQ (coroplast workshops) and PQ 1 (east slope workshops and *naiskos* tomb), yielded Early Byzantine walling that shows a sharp orientational defection from the masonry that dominated the area during the preceding centuries (**Figs. 9.1**-**9.4**). The orientation and location of some of these walls make it obvious that at least part of the original street network was no longer functional by Early Byzantine times. The information about this period is too sketchy to propose a reconstructed road network for this time frame. In fact, it is likely that the existing roads that can be associated with this late building phase consisted of no more than compacted earth, which, due their proximity to the current walking surface, would be very difficult to detect archaeologically (especially the upper layers within the level areas of the Eastern Suburbium tend to be very subjected to soil homogenising percolation and bioturbation/cryoturbation processes).

When studying a section of the Roman road north of the coroplast workshops, it became clear that throughout the centuries the road surface was regularly renewed and heightened (see § 6.2.1 and § 7.2.1). The upkeep of the roads must have been an intensive and demanding task and once these mere gravel roads were no longer maintained, they would soon disappear in the landscape. The stratigraphical position of the Early Byzantine walls in each of the excavation trenches shows that they were located at a significantly higher level than the road levels dating to the Roman period. Even the still partially standing walls dating to Roman Imperial and Late Roman times did not pose any restrictions for the location and orientation of the Early Byzantine walls; in most of the above-mentioned excavations the Early Byzantine walls were indeed built over the older remains. Erosion alone cannot explain such a drastic increase of a terrain within an active, occupied quarter; in most cases the older remains appear to have been buried intentionally underneath thick layers of waste, debris and soil. This operation was not restricted to building remains, but also included adjacent roads and walking levels, as could be observed in the case of the Theatre Street North sounding, west of the PQ 2 site, and – to a lesser extent – in the sounding on the street north of the coroplast workshops. The starting point of these incrementing processes differs from site to site, depending on when the site was abandoned and/or partially dismantled. In both the case of site G and PQ 2, this process already started in the 4th century AD, at the PQ 1 site mainly from the 5th century AD onwards, while at the site of the PQ coroplast workshops no such process took place (the workshops remained in use at least until the middle of the 6th century AD).

In some cases the difference in height between the Hellenistic-Roman periods and the Early Byzantine building phase is remarkable. At the PQ 1 site, for example, where both the *naiskos* tomb and the northern *temenos* wall were still standing more than 3.20 m tall, an Early Byzantine wall runs across the remains at a higher level (**Fig. 9.2**). This leaves little doubt that the road network corresponding to the earlier phases of use of these structures was no longer in use in Early Byzantine times.

The observations made in the 'central' excavations are not necessarily valid for the entire suburban quarter. No Early Byzantine remains have been encountered on the upper terraces at site F, while the Byzantine presence on the lower terraces was limited to a 6th century AD pottery dump clearly postdating the other features on these terraces. It appears that by the 5th century AD most of those terraces were already engulfed in erosional layers, rendering them inaccessible for continued occupation. The 6th century AD ceramic dump, on the other hand, does suggest the presence of nearby pottery production, suggesting that some individual plots on those terraces might have been maintained and must have been accessible to some extent. It is unlikely that the original pathways, which most likely would have followed the originally flat terrain of the terraces, were still in use if at least parts of those tracks were absorbed by screes of soil, rubble and waste. At the other end of the Eastern Suburbium, at the entrance to the Central Depression, the excavations at site PQ 3 revealed that the structural remains dating to Roman times were barely buried. The original street surface of the main road adjacent to this site must be preserved rather close to the current walking level as well, suggesting that this major traffic axis would still have served in Early Byzantine times. A similar conclusion can be drawn from the 1997 trench that cut a section of the same street (see § 6.2.1). However, this same major road must have followed a different route in its continuation alongside site G, where the Early Byzantine walls appear to cut the original road at several locations (**Fig. 9.5**). The more level nature of the terrain at this spot and the fact that the dismantled remains of the site G complex were buried underneath anthropogenic layers of waste and soil, would have allowed for a relatively easy rerouting of the street.

The evidence seems to suggest a nucleation of the activities in the centre of the Eastern Suburbium in Early Byzantine times (see also § 9.2.2), with little evidence for ongoing activities on the northern slopes of the Eastern Suburbium and the abandonment of both the *Gräberstrasse* at site PQ 3 (see § 7.4.3) and the burial compound at site PQ 4 (see § 7.4.7), while the central and easily accessible site G was reoccupied after at least a century of waste dumping and dismantling activities. One exception to this general observation is the installation of the Early Byzantine church at site PQ 5, at the northeastern extremity of the quarter (see § 9.3.2). The church must have been made accessible by a street which would have needed to be fairly level and well constructed, not so much for the churchgoers, but in order to make it possible to haul the building material up to this remote location. The church was partially built using unworked limestone rubble, but a lot of spoliated ashlars were used as well, especially at the corners of the structure and in the inner walls. This means that at least the *spolia* could not have come from a (yet unknown) quarry located higher than or at the same level as the church. It is furthermore very difficult – if not impossible – to reconstruct a route leading up to this point of the Eastern Suburbium with a continuous slope limited enough for the transportation of heavy building materials, especially considering the above-mentioned observation that large parts of the northern terraces were no longer accessible by that period. This presence of a large amount of spoliated material might thus be explained by considering their origin from (funerary?) monuments that were already present at this prominent location within the Eastern Necropolis and that were dismantled in order to create a large, level terrace for the construction of the church.

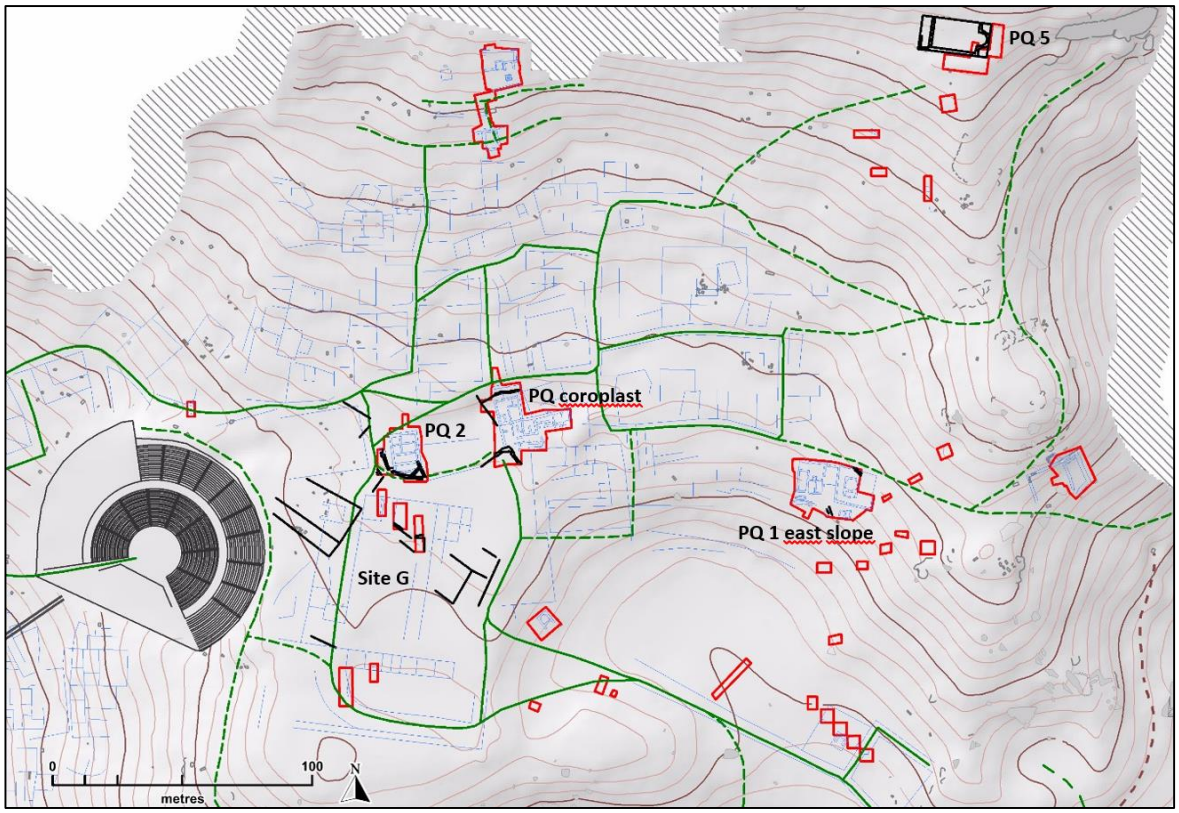


Fig. 9.1. Overview of the Byzantine walls and post-occupational structures within the Eastern Suburbium. The Hellenistic-Roman masonry is indicated in blue, the established road network in green, the Early Byzantine walling is emphasised in black. The orientation and location of the late walls make it clear that at least part of the original road network was no longer functional by Early Byzantine times.

The water infrastructure

The internal water network of the Eastern Suburbium was inextricably linked to the road network, of which the layout in turn was governed by the local topography and the associated terracing of large parts of the quarter. This could be observed in the street sections exposed in excavation trenches west and north of the PQ 2 *schola*, north of the coroplast workshops, at the entrance of the Central Depression, and along terrace walls at site F (the aqueduct) and east of the church. In all these instances built channels and terracotta pipes were aligned next to or dug into the road surface. Apart from this publicly used and probably collectively maintained water infrastructure, there were also sections of water channels, mainly terracotta pipes, that supplied and drained water and waste from individual plots.

Once the original street network was no longer maintained, which appears to have occurred for some parts of the Eastern Suburbium from as early as the 5th century AD onwards, the upkeep of the water infrastructure would also have stopped. This, however, does not mean that the water infrastructure became immediately obsolete. As long as the water channel was not cut and its extremities (the inflowing and outpouring ends) were still operating, the fact that the infrastructure became buried underneath accumulating layers would not have hampered the water flow. Indeed, at several excavations throughout the site of Sagalassos, sections of water channels have been encountered that still function till present-day (*e.g.* in the case of terracotta pipes supplying the Late Hellenistic Fountain House and in the water channel east of the PQ 5 church).

In the excavation of the street section north of the coroplast workshops, the instalment of a standard-sized terracotta water channel (segments with a diameter of 11-12 cm and a length of 40-45 cm, bound with lime mortar), together with a new road surface, was dated preliminarily to the 5th century AD. This type of water

channel was generally used for clean water transportation, not for sewage.[1060] At the PQ site, two east-west running water channels, encountered in the southeast of the excavation trenches, were interpreted as agricultural irrigation channels postdating the abandonment of the workshop complex. The northern-most of the two channels was constructed of upstanding bricks capped with a flattened limestone rubble-rock cover slab; the southern-most of the two was constructed entirely of brick, with each two upstanding bricks capped by a flat-lying cover brick. In addition, a water channel running along the northern edge of the workshops and following the direction of the street, was also interpreted as a late intervention. This water channel was constructed of a heavily mortared rubble-rock shell with an interior brick lining. All bricks used in the Early Byzantine water infrastructure were of the small, 'Late Roman' type (28 by 28 by 3 cm).[1061]

9.2.2 "*A series of small walls*"[1062]

When looking at the map (**Fig. 9.1**), the Early Byzantine walls appear more or less to follow a general northwest-southeast orientation. This, however, might be a coincidence for the most parts. The walls that have been encountered on sloping terrain simply follow the contour lines (northwest and west of PQ 2, PQ and PQ 1), even more so than the preceding Hellenistic and Roman structures. The situation might be different at site G, where the level terrain would not have impeded the construction of walls with different orientations. One of those walls was exposed in trench 2 of the site G excavations over a length of 4.25 m: a dry, narrow wall (*c.* 0.45 m) that was rather shoddily executed. In the adjacent trench 3 a similar wall consisting of loosely piled stones was encountered in the same shallow stratigraphical position. No contemporary find layer could be attributed to this building phase, making a possible identification difficult. However, the lack of a associable find assemblage and the observation that the wall remains consisted of no more than one stone course – while the stones in the immediate surroundings did not allow for the reconstruction of a very substantial feature – suggest that the walls might not have had a structural purpose, but were merely used to delineate a certain area. It is also unlikely that these walls could have served as the plinth for a mudbrick standing wall; the lack of foundations and bonding agent would have rendered them useless as a load-bearing base. The lack of 6th or 7th century AD material within these trenches led the excavators to propose a (late) 5th century AD date for their construction[1063], while a later date cannot be excluded based on similarities with other structures encountered at the above-mentioned other sites within the Eastern Suburbium.

A similar purpose as relatively low enclosure walls is suggested by the curved shape of other Early Byzantine walls, *e.g.* in the case of the walls south of PQ 2 and southwest of the PQ coroplast workshops. The former walls, which were built over the remains of the southeastern corner of the PQ 2 *schola*, formed a triangular closed off space (a corral?). Still there was no clear connection between them, with each wall appearing to have been built separately. The continuation of the east-west oriented wall as well as several other, similar walls have been encountered within the same stratigraphical layers west of the *schola*, immediately below top soil. All these walls were haphazardly built dry walls, consisting of medium and large-sized uncut limestone rubble, with a width of 0.50-0.70 m and a height below 0.50 m. Based on the fragmented sherds trampled into a walking level that could be associated with these features, the walls could have been constructed in the 5th or early 6th century AD.[1064] Coins dating to the second half of the 5th (5 coins) and the third quarter of the 6th century AD (1 coin)[1065] were encountered in the surroundings, but should possibly be linked with the 5th-6th century AD dump that covered large parts of the site.

[1060] PQ 2 2011 internal excavation report by Johan Claeys.
[1061] PQ 2009 & 2011 internal excavation reports by Elizabeth Murphy.
[1062] Quote from the 'archaeology sketch' in the show *Glorious* by British comedian Eddie Izzard.
[1063] PQ 2004 internal excavation report by Peter Talloen and Jeroen Poblome. A concise version of this preliminary report was published in the *XXVII. Kazı Sonuçları Toplantısı*, 279-280.
[1064] PQ 2 2011-2014 internal excavation reports by respectively Johan Claeys, Sven Van Haelst, Peter Talloen and Johan Claeys.
[1065] Coin determination by Johan Van Heesch and Fran Stroobrants (Coin Cabinet, Royal Library of Belgium).

The two walls to the southwest of the coroplast workshops appear to form a rough corner, again without clear signs for interlocking. These postdated the abandonment of the coroplast complex, since one of the kilns (kiln 10, see § 8.3.2) appears to have been deconstructed in function of their construction. The substrate upon which the walls are constructed provided a *terminus post quem* in the 6th century AD, suggesting that the transition between the abandonment of the workshop complex and the adaptation of the area for other purposes was rather swift. They do not appear to have ever been structural in nature (no mortar, no foundations, rather haphazardly constructed), and their precise function remains unclear.[1066]

Finally, a 4.15 m long section of an Early Byzantine wall has been exposed at the PQ 1 site. This wall tops the remains of the *temenos* wall surrounding the *naiskos* tomb, the remains of which were still standing *c.* 3.20 m tall (**Fig. 9.2**) when the Byzantine wall was built. The height difference between the level on which the Early Byzantine wall was constructed and the 3rd and 5th century AD walking levels within the *temenos* is respectively *c.* 2.70 m and *c.* 1.45 m, all of which are anthropogenic fills. This height difference can partially be explained by the slope (the northern wall of the *temenos* doubled as a retaining terrace wall), but it also shows that the northern half of the *temenos* and at least a part of the *naiskos* was filled in with several meters of levelling fills and dumps by the 6th century AD. The Byzantine wall measured *c.* 0.75 m in width and – as in the other contemporary walls – lacked the use of a bonding agent in between the medium-sized uncut limestone blocks.

The orientation of the Early Byzantine walls appears to be determined by the local topography in the cases of the PQ, PQ 1 and PQ 2 sites. Taking into consideration their very superficial position (**Fig. 9.4**), the local topography at the time of their construction must have been very much alike the present-day relief and possibly divergent from the Hellenistic-Roman relief. The latter is in fact suggested by older walls that do not align themselves to the current topography, as is the case for the workshops and *naiskos* tomb at the PQ 1 site. At this site, the increase of the terrain by an accumulation of anthropogenic layers appears to have significantly changed the original terrain, an impact that has not been attested to the same extent at the other sites. The homogeneity in the orientation of the Early Byzantine walls that were constructed on the more level terrain of site G needs to be explained in a different way. In this case, the walls might delineate a series of plots.

All the above described walls, which were convincingly identified as an Early Byzantine building phase discernable from the preceding occupational phase(s) of the respective sites, show remarkable similarities in building techniques, dimensions, stratigraphical position and even orientation (even though the latter can at least partially be explained by the local topography, see earlier). Another similar trait, *i.c.* the lack of directly associable finds, makes it problematic to propose (a) function(s) for their construction. Their building style strongly suggests that these walls were not part of covered structures, but should rather be interpreted as walls delineating specific areas. Agricultural terracing has been proposed, but these walls do not show the structural integrity nor any of the building techniques required for retaining walls. Moreover, most of the walls have been identified on the relatively level grounds of site G, where terracing would have been meaningless. This does not, however, rule out agriculture as the main reason behind their construction. Improvised walls could have been easily erected with the stones collected during field clearance, while at the same time serving to delineate individual plots of land. This hypothesis is strengthened when understood in connection with the Early Byzantine water channels of the PQ site that were preliminarily associated with irrigation practices. Additionally, archaeologists observed during the PQ coroplast workshops excavations how the upper strata of soil were remarkably loose and deposited horizontally, which also was linked to agricultural activities.[1067]

[1066] PQ 3 2012 internal excavation report by Elizabeth Murphy. A concise version of this report appeared in the *XXXV*. *Kazı Sonuçları Toplantısı* (Turkish).

[1067] PQ 2008-2009 internal excavation reports by Elizabeth Murphy. Concise versions of these reports appeared in the *XXXII*. *Kazı Sonuçları Toplantısı*.

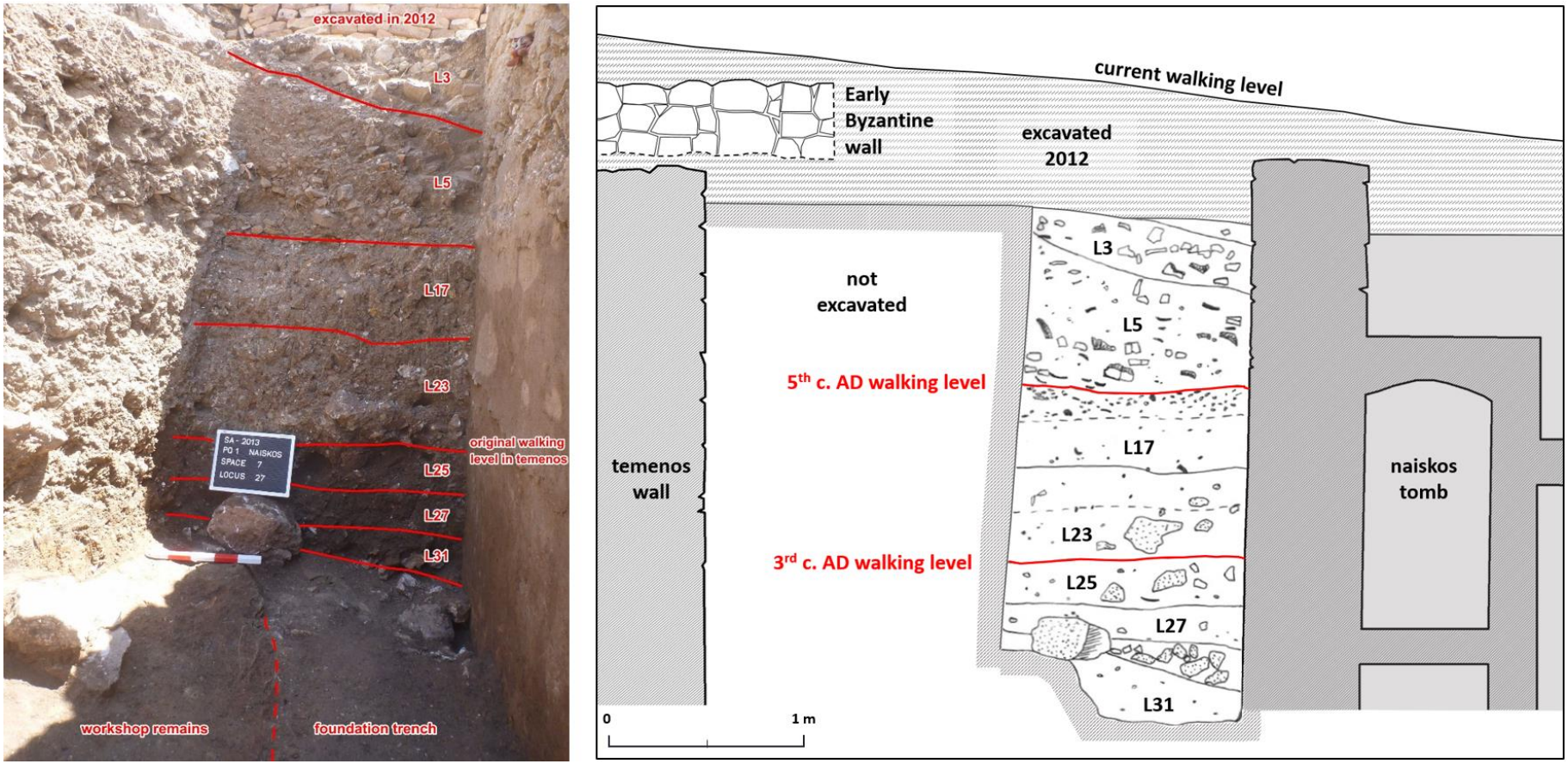


Fig. 9.2 a/b. Views on the eastern profile within the *temenos* of the *naiskos* tomb at site PQ 1: a) view from the west on the eastern profile; b) schematic view on the eastern profile in relation to the *naiskos* tomb, *temenos* wall and Early Byzantine wall. Drawings by author. L31 is the foundation trench for the construction of the *naiskos* tomb, dug through the remains of a workshop (see picture a); L25/L27 are subsequent levelling fills within the *temenos*; L27/L23 is a later fill, associated with a 5th century AD reuse and restoration of the tomb; L3/L5 are 6th century AD dumps.

The triangular structure in the southeastern corner of the PQ 2 excavation trench (**Fig. 9.3**) has the size and height of the post-occupational corrals encountered elsewhere within the Eastern Suburbium (see § 9.4), but the lack of an opening and the shape makes such an identification unlikely. The structure might have served as a makeshift shelter, by building a perpendicular wall in order to close of a corner of an (agricultural?) plot defined by already existing walls. A wooden upper structure might be imagined, since the walls seem less fit to carry an upper structure in sundried mudbrick. A walking level was recognised within and to the northwest of the structure[1068], suggesting an intensive use of the area.

The observation that these Early Byzantine features are limited to the central, less steep parts of the Eastern Suburbium might be because most of the terraces within the steeper parts of the area were no longer in use and erosional layers had reconverted them back into intractable slopes. At least a century before the definitive abandonment of the Eastern Suburbium in the 7th century AD (see § 9.4.2), the aspect of this suburban quarter must have been already very divergent from the densely occupied artisanal-funerary quarter it was during the first centuries AD, with a landscape dominated by few workshops, surrounded by undeveloped lands, sprawling heaps of waste, derelict monuments and agricultural fields. The investment into the construction of a church on the eastern ridge overlooking the *suburbium* shows that there was no intention to abandon the area; however, the particularly short lifespan of the church impeded a revival of the surroundings (see also § 9.3.2).

The obvious changes that are recognised throughout the Eastern Suburbium are in line with the archaeological evidence in the rest of the territory of Sagalassos. Hannelore Vanhaverbeke mentions five clear changes between Late Roman and Early Byzantine occupation of the region, among which *"*[…] *the transfer of some economic activity from the city to the countryside and the establishment of rural churches* […]*"*[1069] are of importance for the evolution of the Eastern Suburbium (see also § 9.4.1). The return of large-scale agricultural practices, for the first time since Hellenistic times, can be understood as a decline of the economic importance of the quarter and might be related to the more moist climate of Late Roman and Early Byzantine times, which would result in less favourable conditions for agriculture on the valley floor. We will take a closer look at the internal and externtal causes behind these changes in § 10.2.1

[1068] PQ 2 2012 internal excavation report by Sven Van Haelst.
[1069] Vanhaverbeke *et al.* 2004, Conclusion (s.l.).

Fig. 9.3. Detail from the 2013 orthophoto of the PQ 2 site, showing the Early Byzantine walls in the southeastern corner of the trench. The underlying southern and eastern walls of the *schola* are partially visible (note the threshold on the left). The triangular structure appears to have been created by building the central, southwest-northeast oriented wall in order to close off the corner formed by two already existing walls.

Fig. 9.4. View from the south on an Early Byzantine wall within trench 2 at site G (foreground), clearly showing the superficial position and the difference in altitude and orientation of the Byzantine wall in comparison with the underlying structural remains dating from Roman times (which is part of a standing wall; the foundation still being buried underneath).

At the site of the coroplast workshops, two parallel east-west running water channels were uncovered in the area immediately south of the southeast atelier. These agricultural irrigation channels postdate the abandonment of the coroplast workshop complex and appear to be a component of a late phase agricultural re-adaptation in the area – possibly also in association with the wall constructions described below. Although no datable material was associated with these features, the choice of building materials and construction technique suggest them to be late Antique or Byzantine in date. The northernmost of the two channels was constructed of upstanding building tiles capped with a flattened limestone rubble-rock cover slab (dimensions: length 2.0 m; width 0.55 m; depth 0.35 m). The other one was constructed entirely of building tiles with two upstanding tiles capped by a flat-lying cover tile (dimensions: length 1.30 m; width 0.40 m).

In the most western excavated sector, the western extension of a large, heavily mortared water channel first discovered in 2009 was uncovered (maximum exposed length 2.40 m; width 0.30 m). This water channel is constructed of a heavily mortared rubble-rock shell with an interior tile lining. The channel turns southwest at this point, following the slope of the natural scree.

Two walls uncovered southwest of the workshops was roughly forming a corner. These walls postdate the abandonment of the coroplast workshop complex as Kiln 10 (see above) appears to have been deconstructed in function of their construction. The substrate upon which the walls are constructed is dated to the 6th century AD, providing a *terminus post quem* and suggesting the transition between the abandonment of the workshop complex and the adaptation of the area for other purposes was rather rapid and still late antique in date. Although both walls are located close to the modern surface level, which likely affected their preservation, they do not appear to have ever been structural in nature as they lack solid foundations and mortar and are rather haphazardly constructed. Their precise function is currently unclear; however, agricultural terracing or coral-building are possibilities.

9.3 Christians in the Eastern Suburbium

9.3.1 The rise of Christianity in Pisidia

A significant Imperial invigoration of Christianity came with the support of Constantine the Great, the 'Emperor of the Christian People'[1070], which would have emboldened Christians throughout the Empire to openly profess their faith. While being an outspoken Christian might still not have been necessarily beneficial in many parts of the Empire, it would increasingly become tolerated, accepted and eventually even encouraged. Christians would gradually find their way out of marginality and out of their backroom congregation places, especially in the cities with considerable Christian communities. The policies of Constantine's successors would be even more vigorously promoting Christendom and, for the first time, also actively counteracting pagan institutions and followers. The reign of Julianus 'The Apostate' (361-363 AD) would be too short for his attempt at restoring paganism as the state religion to have any lasting impact. By the end of the century, under Theodosius I (379-395 AD), the triumph of Christianity would be cemented by an Empire-wide prohibition on pagan rituals and the forced closing of temples, which in many cases would include the assets of the pagan estates being transferred to the Church.[1071]

Pisidia appears to have been one of the regions that remained largely unaffected by the new Imperial policies towards Christianity in the first half of the 4th century AD, with little to no monumental or public externalisation of the religious movement. The earliest Christian basilicas attested in Pisidia do not predate the reign of Theodosius I[1072], which seems to imply that up to that point house-churches were still the standard meeting places for the congregation of Christian followers in Pisidia, which for obvious reasons is more difficult to attest in the archaeological record. The Empire-wide 'crisis of the 3rd century' has been mentioned as a fertile breeding ground for Christendom to proselytize and gain a following among large swaths of the population. Nevertheless, not every province was as obviously affected by this 3rd century AD economical and political setback; in the case of Pisidia, for example, the 3rd century appears to have been a period of continuous relative prosperity and peace. This might partially explain why it took relatively long for Christianity to gain a foothold in Pisidia and for its growing presence to capitalise in outward signs.[1073] Nevertheless, the wining political decisiveness and financial clout of the civic institutions would eventually leave its impact in Pisidia as well. *"The end of lavish banquets, money distributions, festivals with fairs and games"*, says Peter Talloen, *"may well have enhanced the position of the rising Christian community who could now easily win over the crowd with its charity.* […] *As Christianity became a passport to social advancement, it went up in the social scale and also had the necessary impact on the higher classes who may now have directed their aim on the offices within the Church, where esteem could now be earned and rewarded."*[1074]

The earliest legacy of a significant Christian presence in Pisidia appears to have not been in the form of an architectural or textual nature, but in the form of destructions and disruptions of pagan institutions and symbols, most probably to be related to post-Julianus retaliations. In the case of Sagalassos, such an explanation has been proposed for the burning down of the Neon Library, which only shortly before (during the reign of Julianus?) had been reconstructed and outfitted with a mythical mosaic floor scene depicting Achilles, his mother Thetis and his mentor Phoenix. The deliberate maiming of the figures in the scene prior to the collapse of the Library suggests

[1070] Whether Constantine the Great qualifies as a Christian himself remains a matter of debate. While certainly having been influenced by his Christian mother and while clearly favouring Christianity in his policies, he was not baptised till on his deathbed.

[1071] Spieser 2001; Talloen 2003, II, 152-160.

[1072] Late 4th or early 5th century AD dates have been attested for churches in Adada, Kremna, Sagalassos and Selge, and proposed for churches in Pednelissos, *Kapıkaya*, Sia, Ariassos and Melli. Most of these churches were located in the very political heart of the city. The only known church in Pisidia firmly dated to the 4th century AD is a church at Pisidian Antioch, which suburban location probably resulted from a lack of space in the city centre on the one hand and a lack of established status that could claim a central location on the other hand (Talloen 2003, II, 162-164).

[1073] Talloen 2003, II, 149-164.

[1074] *Ibidem*, 151.

that the destruction was deliberate and ideologically driven.[1075] Other incidents of arson and iconoclasm have been attested throughout Pisidia around the same period, but contemporary Christian architecture is still absent at this point in time.[1076]

The reign of Theodosius I rather than Constantinian age would prove to be the definitive turning point for Pisidia, and by the end of the next century churches would dominate not only the civic landscape, but also the urban periphery and the countryside. The sudden construction boost is all the more remarkable after centuries in which new monumental architecture was extremely sparse. This phenomenon can only be explained by the concurrence of several factors. First of all, the financial impetus was instigated by the funnelling of temple possessions to the Church, but also by financial injections by the local elite, who increasingly appreciated the social betterment associated with an alliance to Christianity. Secondly, building materials became readily available in the form of *spolia* from the abandoned pagan temples and institutions.[1077] Thirdly, and inextricably linked with the former observation, building locations became available in the densely occupied urban texture as the sites of pagan temples and institutions were no longer protected by law nor by social mores. In the case of Sagalassos, the two latter factors are archaeologically well attested for, with the Bouleuterion Church, the Apollo Klarios church and Stadion church as obvious examples of fifth century AD large-scale Christian constructions making use of spoliated building material from pagan monuments and occupying former pagan sites. Finally, while the impact of small bequests from the Christian lower classes might have been limited, they could dedicate their labour or produce to the upkeep of the churches and the liturgy.[1078]

9.3.2 An early Byzantine church[1079]

Introduction

In the northeastern corner of the Eastern Suburbium, on a terrace high upon the eastern ridge, the remains of a monumental building are overlooking both the *suburbium* to the southwest as well as the Elmalı Pınar valley to the southeast. To the north loom the steep slopes of the Ağlasun Dağları. This structure was initially studied as part of a 2007 surface survey[1080] that accompanied the excavation of the three Eastern Aqueduct trenches dug immediately to the south. The research identified the remains as a tripartite basilica church, oriented roughtly west-east (with a slight northeast-southwest inclination, following the local topography). The building measured 22.7 m in length and 13.3 m in width; it was preceded by a 3.9 m deep *narthex* on its western end and contained a semi-circular apsis at its eastern end (polygonal at the outside). The use of ashlars was restricted to the corners; most of the standing walls were built with mortared limestone rubble (**Fig. 9.5**).

[1075] Waelkens *et al.* 2000, 426, 435-437. Similarly, the abandonment of the site G complex at the Eastern Suburbium of Sagalassos has also been explained from an ideological point of view. If this was indeed the site of a *gymnasion*, a particularly Hellenic symbol of paganism, it would have been a likely target for Christian 'purification' of the city texture. There are, however, strong indications for a different identification of the complex, including non-ideological reasons for the abandonment of the site (see § 6.5.1 and § 8.5.2).

[1076] Talloen 2003, II, 154, 162-164.

[1077] It remains a matter of debate as to what extent aesthetic, symbolic and/or financial considerations played a role in the use of *spolia* in Early Christian monumental architecture. For a short overview of diverging scholarly opinions regarding this matter, see Talloen 2003, II, 161 Footnote 99.

[1078] *Ibidem*, 149-164.

[1079] Most of the data used in these paragraphs are based on the PQ 5 2013 internal excavation report by Peter Talloen and Bas Beaujean, which is published in a concise form in the *Kazı Sonuçları Toplantısı* (Talloen & Beaujean 2014b).

[1080] This first survey of the building was undertaken by Femke Martens and Kim Vyncke in 2007 (Martens & Vyncke 2007, internal report), which resulted in the identification of the building as a church.

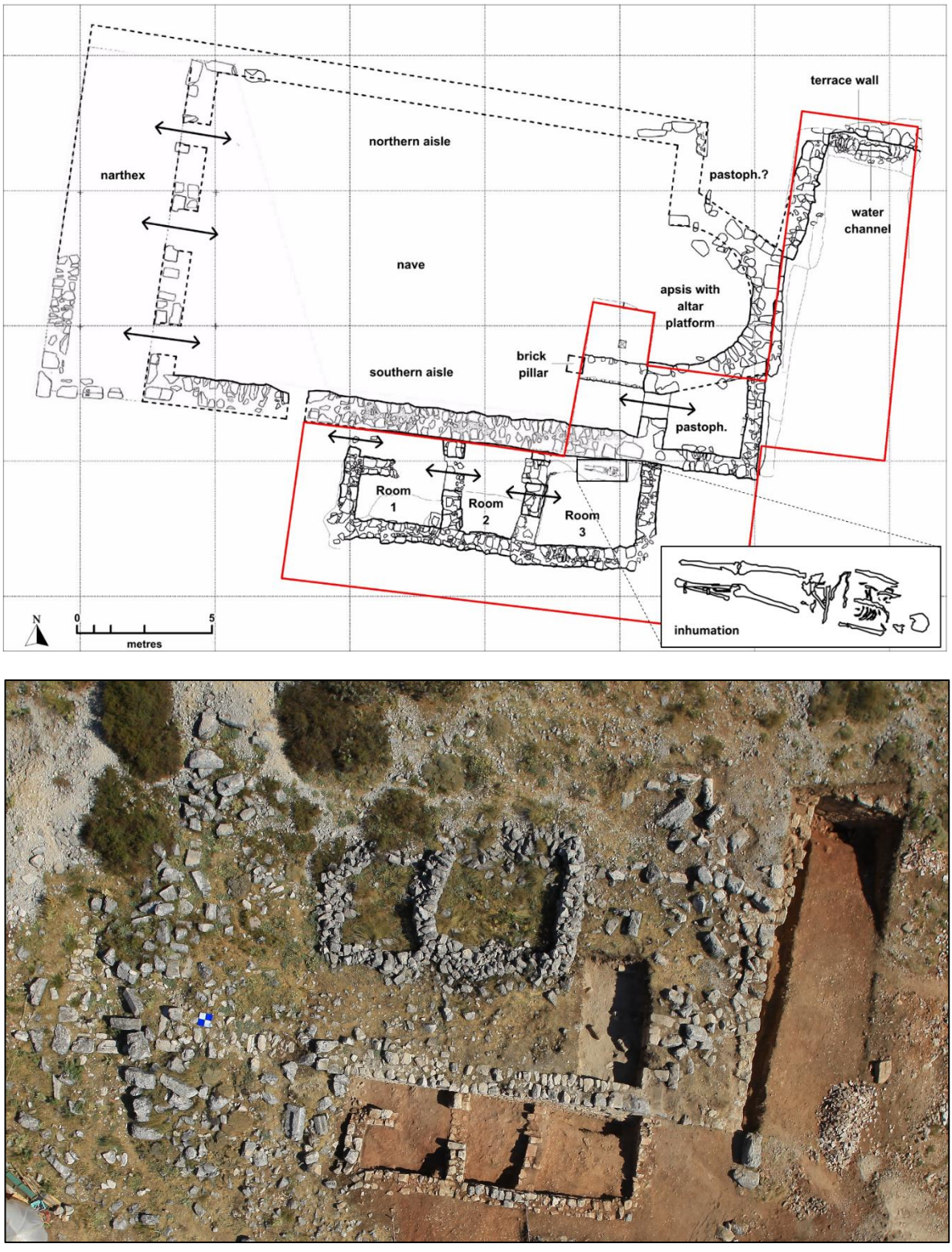


Fig. 9.5 a/b. Map (a) and georeferenced aerial picture (b) of the church at site PQ 5. The two circular structures in the centre of the picture are post-occupational corals constructed from loose rubble. See Attachment 8 for more detail.

Although the building had received marble liturgical furnishings and painted wall decoration, no permanent floor had been installed. Its general plan suggests a construction date during the 5th or 6th century AD, but based on finds from the foundation trench of the eastern wall the date could be more precisely pinpointed to the first quarter of the 6th century AD. Each of the church's three naves corresponded with a specific space at their eastern end: the central nave opened into the *bèma*-annex-apse (which would contain the altar), while the lateral naves

ended into two small rooms adjacent to the apse. These *pastophoria* – generally the *diakonikon* (containing the scripts, vestments,… used during service) to the south and *prothesis* (containing the sacred vessels) to the north – were a typical architectural element in early Byzantine churches and still live on in current-day orthodox church buildings, especially in Syria.

In 2013, several trenches were opened inside the building, with the intention to learn more about its chronology, layout, decoration and function, as well as outside the building, where it was expected to encounter early Christian burials.[1081]

Terracing and levelling the terrain

With an average altitude of 1625 m asl, the PQ 5 church site is located higher than any other documented archaeological feature within the Eastern Suburbium (for comparison: the highest point of site F is 1618 m asl). The north-south, northeast-southwest and northwest-southeast facing slopes of the eastern ridge are comparable in steepness with the slopes at the level of site F, which means that a monumental building project could only be undertaken after a level terrace was created by removing part of the limestone bedrock and virgin soil from the slope to the north and levelling the slope to the south with the excavated material. The trench east of the church exposed four meters of a terracing wall with a similar orientation to the church (**Figs. 9.5-9.7**). The inclination of this wall suggests that it could not have formed the northern wall of the church itself, but that it must have run parallel to it at a short distance. This would have allowed the passage of a man, but was more probably intended to allow the passage of the water channel that passed in front of the terrace wall. This water feature consisted of two rows of limestone rubble set in a bed of clay, which formed a channel with a width of 0.22 m and a depth of 0.25 m (**Fig. 9.7**). The cover consisted of rubble stones as well.

The construction of a water channel (**Fig. 8.60**) in front of this latter terrace wall made it impossible to date the terrace wall itself. It cannot be excluded that the wall is part of the older terracing of the higher slopes of the *proasteion* (see § 5.2), even though there are no indications for earlier presence on this part of the site. The fill of the water channel itself did not provide any dateable material; the clayish soil immediately topping the cover of the channel contained 6th century AD ceramics. The terrace extended beyond the church itself, presumably in order to accommodate a graveyard.

The terrace wall must be predating all other infrastructure on the site, but there are no indications that its presence would have been necessary before the construction of the church itself. The absence of significant amounts of ceramics predating the 6th century AD might be explained either from the (almost) complete absence of earlier features at this location or as the result from obliterating older features by digging a level terrain preceding the building of the church. Since all dateable coins from the site predate the 6th century AD[1082], it is not unlikely that the site was in use prior to the construction of the church. In that case, the presence of funerary monuments is the most probable, taking in consideration that both the upper terraces and the eastern ridge of the Eastern Suburbium are occupied with funerary activities. The presence of *osteothekos* fragments in the debris layers covering Room 1, Room 3 and the area east of the church should be considered as an additional indication for this hypothesis.

[1081] By 2013, the only Early Byzantine burials known from the territory of Sagalassos were three (partially preserved) burials encountered south of the Çataloluk church in the Southern Necropolis of Sagalassos.

[1082] Thirteen coins were found at the site, seven of which could be dated. One coin dated to the Hellenistic times and one to Imperial times (1st-2nd century AD), while the other five coins could be dated to the late 4th or 5th century AD. All the dateable coins thus predate the construction of the church, which seems to imply that this part of the site was not completely abandoned prior to the activities associated with the Early Byzantine church.

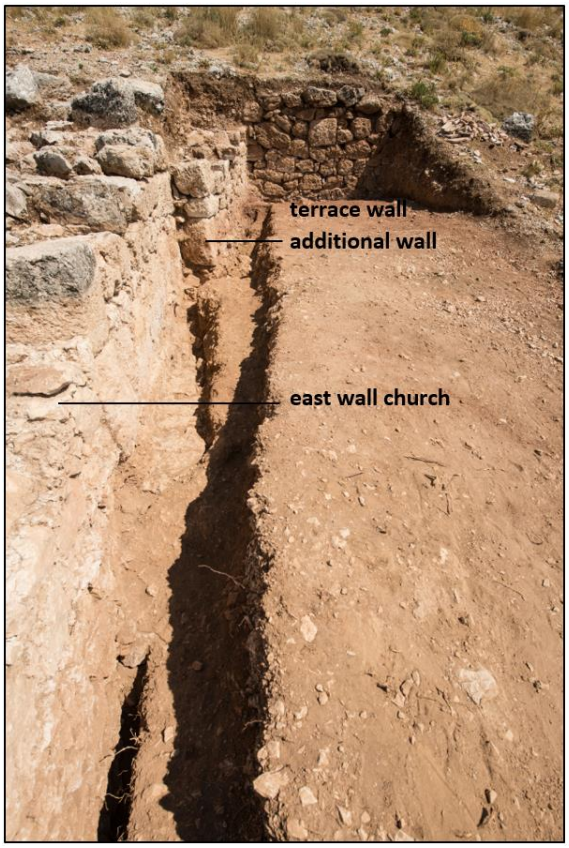


Fig. 9.6. View from the south on the excavation trench east of the church, with the east wall of the church on the left (foreground) and the terrace wall in the back. An additional wall was built between the east wall of the church and the terrace wall.

Fig. 9.7. View from the east on the water channel in front of the terrace wall. After cleaning out the channel, the water started flowing again, indicating that the supplying infrastructure is still intact.

The same excavation trench east of the church did allow the archaeologists to collect material from the foundation trench of the apsis of the church, resulting in a construction date in the first quarter of the 6th century AD. The foundations themselves appeared to be constructed of more regular, rectangular limestone blocks than the standing walls.

A walking level dating to the second half of the 6th century AD was recognised east of the church. This can possibly be understood as an indication that the construction of the church took several decades. On top of this walking level, against the east wall of the church, a deposit of debris had accumulated, consisting of building material from the basilica (limestone rubble, tuff blocks, bricks, roof tiles and mortar remains) as well as window glass. Several roof tiles were decorated with Chi-Rho symbols (**Fig. 9.11**). This layer was dated to the second half of the 6th century AD as well. Based on the position of some of the wall stones, the excavators suggested that at least part of the debris might have collapsed because of seismic activity.

The church

The church follows a regular tripartite basilica plan, preceded by a *narthex* at the western end and with the nave of the church ending in a semicircular apse at the eastern end. The outer walls of the church were double faced and consisted of mortared limestone rubble and ashlar blocks. The maximum preserved height documented for the southern wall was 2.20 m, while the not exposed northern wall might have been preserved to a higher level.

The excavation within the church was limited to the eastern end of the southern aisle of the church (**Fig. 9.5**). Within this trench, *c.* 2.50 m of the inner face of the southern wall of the church, as well as the eastern wall and a 0.90 m wide passage to an adjacent room (probably a *pastophorion*) were exposed. The eastern wall was built

of spoliated ashlar blocks of which the joints were filled by small stones. The doorway was blocked by a dry wall of irregular tuff blocks (**Fig. 9.8**). In the western profile of the trench, the remains of a 0.65 m wide pillar were encountered, consisting of alternating layers of brick and tuff blocks. This pillar was the easternmost of a series of probably five pillars carrying an arcade of tuff blocks and bricks which separated the southern aisle from the nave. These pillars were constructed on top of a stylobate composed of mortared rubble stones and built in a foundation trench cut into the virgin soil. The lack of finds from both the foundation trenches for the walls and for the stylobate, made it impossible to retrieve a date for their fill.

The floor substrate was 15 cm thick and interrupted by narrow, east-west aligned trenches that originally contained wooden beams (**Fig. 9.8**). These trenches were positioned at regular distances (*c.* 0.50 m) from one another. The northernmost exposed trench for a wooden beam turned northwards, as it followed the outline of the altar platform in front of the church's apsis. The beams that once filled these trenches served as girders for a wooden plank floor. Even though neither planks nor beams were preserved, the width of the planks (between 10 and 14 cm) could be estimated on the basis of the spacing of the iron nails found *in situ* within the trenches. The ceramic sherds found within the floor substrate could be dated between 525 and 575 AD.

Fig. 9.8. View from the west on the eastern end of the southern aisle of the tripartite church. The entrance towards the adjacent small room (a *pastophorion*?) is blocked by a dry wall of small, irregular tuff blocks. The negative imprints of the east-west orientated wooden girders is visible at regular distances (indicated in blue), parallel with the south wall of the church.

Traces of the original wooden floor, in the form of many charcoal pieces and burnt spots, were encountered in an overlying find assemblage, containing an oil lamp and several metal objects, including a bronze handle of a vessel (**Fig. 9.9**) and an iron key. Archaeobotanical analysis of this context confirmed the presence of leaves of conifers (cedar, fir, pine), but also a concentration of hulled barley grains (*Hordeum vulgare* var. *vulgare*).[1083] The sherds encountered within this layer, identified as a floor deposit, are dated to the late 6th – early 7th century AD. Also numerous fragments of painted wall plaster as well as a fragment of a marble slab (probably a chancel plate) were retrieved from on top of the floor level, indicating that the internal decoration of the church was already

[1083] Marinova 2014, unpublished archaeobotanical field report.

derelict by that time. The main fill within the church consisted of elements belonging to the collapsed southern arcade, parts of the collapsed side walls and the remains of the roof above the southern aisle: iron nails, bricks, tiles and tuff blocks, as well as limestone wall blocks. The associated pottery sherds were dated in the second half of the 6th century AD.

Fig. 9.9. Bronze handle of a vessel encountered within the church.

Fig. 9.10. Oil lamp encountered within the church.

Fig. 9.11. Fragments from roof tiles of the PQ 5 church, incised with Chir-Rho symbols, encountered within the layers of building debris covering the excavated trenches.

The adjacent rooms

A series of three small rooms was built against the southern wall of the church. The complete structure measured 11.20 m in length, parallel to the church, and 4.10 m in width. The rather irregular outer and inner walls were made of limestone rubble, brick and tile fragments, bound together by mud mortar. The structure was accessible from a western entrance, with consecutive entrances from one room to the next (resp. Room 1, Room 2 and Room 3 from west to east). The passage between Room 2 and Room 3 was closed at some point by mud bricks and tuff blocks.[1084] Most of these walls were built on top of the bedrock and/or virgin soil. Since the bedrock slopes down rather steeply in a southern direction, the southern halves of these rooms were filled with small stones in order to create a level surface. Some of the inner dividing walls were built (partially) on top of this fill. A floor substrate, encountered throughout the three rooms, was laid out on top of this levelling fill and contained material dating to the period 525-575 AD (Room 2) or to the second half of the 6th century AD (Rooms 1 and 3).

[1084] Possibly similar features might be associated with the Early Byzantine church that was partially excavated at Çataloluk, in the Southern Necropolis of Sagalassos. A part of the original south wall of the church was dismantled and a perpendicular wall was fitted in that was only partially exposed. It was interpreted in the preliminary excavation report (Claeys 2011) as a possible wall subdividing the churchyard into different burial plots, but the size of the wall suggests a more structural purpose.

All three rooms were covered with a layer containing a lot of building debris and ceramics dated to the second half of the 6th century AD.

Fig. 9.12. View from the west on the series of small rooms south of the church, which were erected shortly after or while the construction work on the basilica church of PQ 5 was ongoing. A *pithos* was found in situ in the southeast corner of the most eastern room.

An *in situ* (?) tile in the southeastern corner of **Room 1** (**Fig. 9.12**) might be interpreted as the remainder of the original floor. A small, circular burnt spot (diameter: 0.20 m) could be documented within this room as well as a small waste dump deposited on top of the floor level in the southwest corner of the room. This dump contained egg shells, remains of poultry, several fragments of a glass vessel and ceramics dating to the late 6th century AD and should probably be associated with the last phase of occupation of the structure. Among the architectural remains recovered from the debris layers covering Room 1 were marble fragments which can probably be ascribed to the *ciborium* (freestanding canopy covering the altar) of the church, *i.c.* a part of a column and the base (**Fig. 9.16**).

Within **Room 2**, the archaeobotanical study of a sample collected from the floor substrate showed that it contained mainly remains of wood fuel, including leaves of fir and pine, as well as diverse weeds.[1085] The few tile fragments found on top of the floor substrate suggest the presence of an original tile floor. Both the floor and a large part of the substratum had been removed in the southwest corner of the room, resulting in a large pit dated to the period 525-575 AD. Sometime between the original layout of the floor and its subsequent dismantlement, the doorway connecting Rooms 2 and 3 was blocked by a wall of mud bricks and tuff blocks.

In the southeastern corner of **Room 3** a complete *pithos* (diameter: 0.57m; height: 0.54m), dating to the second half of the 6th century AD, was dug into the mother soil (**Fig. 9.14**). On top of the floor level, a concentration of ceramic vessels was found, including several plates and a lamp stand that might have been used in the church (**Fig. 9.13**). These vessels were dated to the first half of the 7th century AD and are – together with the *pithos* – the only items encountered within the rooms that might be linked to their original function. A secondary, superseding walking level was encountered in the southern half of the room, containing a small, circular burnt spot (diameter: *c.* 0.35 m) and material from the second half of the 6th century AD. This level has been associated

[1085] Marinova 2014, unpublished archaeobotanical field report.

with activities of robbers, as attested by two pits dug in the northern half of the room and by the find of a trowel on top of this second walking level.

Still within the perimeter of Room 3, in the foundation trench of the south wall of the church, a tomb of an adult male individual had been accommodated. The skeleton of the deceased, placed in a wooden coffin (with a length of 1.83 m and width of 0.49 m), was oriented with its head to the east and with the arms folded across his abdomen (**Fig. 9.5 a** inset). A gilded bronze buckle decorated with a Latin cross with glass inlays was the only remaining belonging encountered within the burial (**Fig. 9.15**). The limestone rubble cover of the tomb was superimposed by a layer containing some sherds dating to the first half of the 6th century AD. Despite the facts that the church was situated in one of the largest *necropoleis* of the city and that burials are presumed to have shifted location towards church buildings, this was the only burial found in the trenches laid out to the east and south of the basilica. The date for the burial and its location within the foundation trench of the church suggest that the burial was deposited when the church was still under construction. Did one of the church builders died in a construction accident and was granted this unusual burial location? Or should we understand its apparent isolation as the special treatment reserved for a cleric?[1086]

Fig. 9.13. Remains of vessels and a lamp stand encountered on top of the walking level within Room 3.

Fig. 9.14. View from the west on the *pithos* encountered in the southeastern corner of Room 3.

Fig. 9.15. Belt buckle from the inhumation encountered in the foundation trench of the PQ 5 church.

Fig. 9.16. Marble base (of the *ciborium*?) found among the debris south of the church.

[1086] At least in Medieval times being killed in an accident while working in a cathedral or a church allegedly gained you a place in heaven (from *The Medieval Church*, HistoryLearningSite.co.uk 2014). The observation that no other burial were encountered in the immediate and wider surroundings shows that this was either not a regular part of the cemetery or that the site was abandoned before the cemetery could develop any further. Dismantling operations indeed started not long after or even before the construction works were completely finished.

Abandonment of site PQ 5

The waste dump and pottery concentration in the annex rooms suggest that their last phase of occupation was in the late 6th or early 7th century AD. The building was subsequently abandoned and its content – except for a buried *pithos* – removed. Due to these interventions no clear function could be determined for the structure.

It was also around the same time that the basilica, which was already partially derelict – judging by the pieces of painted wall on the floor and underneath the wall blocking the entrance to the southern *pastophorion* – was abandoned as its marble furnishings were in the process of being removed. Some of them, namely pieces of the *ciborium* (canopy build over the altar), were found outside to the south of the church. This means that the church was already out of use when the roof, arcades and walls of the basilica collapsed as the result of seismic activity (7th century AD earthquake?). This short duration of occupation of the church might be explanatory in why no (more) burials have been found (even though there is only one burial encountered, it confirms the initial funerary function of the sanctuary). Sherds from within the foundation trench were dated to the first quarter of the 6th century AD, but construction work might have been ongoing for years or decades afterwards. The possibly temporary wooden floor might be considered as an additional indication that the interior decoration of the building was still ongoing around the time the church went out of use, possibly still in the same century. More burials might be present in the relatively level space west and southwest of the church; the lack of burials in the excavated trenches might only be an indication of the fact that the graveyard did not have time to develop to its full potential extent.

9.3.3 Discussion

A church in the Eastern Suburbium

Even though during the 5th and 6th centuries AD Christianity in the East was torn by dogmatic strife over the definition of Christ's nature on a liturgical level, on an architectural level standardised building types would evolve for different liturgical functions (congregation services, baptism, martyr cults, private devotion, public receptions, *etc.*). Specifically for simple parish churches, the complex and eclectic ecclesiastic architecture from the Constantinian age would gradually make way for a rather unified building style based on some of the traditional elements of the basilica: nave, apsis and two aisles. Additionally, *atria*, *narthices* and transepts would also become common elements in eastern church architecture, as well as the *pastophoria*: the *prothesis* (an annex room generally used for the preparation and storage of the Eucharist) and the *diakonikon* (an annex room in which the deacon receives the offerings, keeps the archives, the library, the vestments and the church treasure). Orientation would become a general rule as well, with the church's apsis facing west.[1087]

The churches in Sagalassos, of which the oldest ones date to the 5th century AD[1088], clearly followed in this evolution. All of the Early Byzantine churches known within the city and immediate surroundings of Sagalassos are similarly based on a tripartite basilica plan, while they differ in the presence or absence of *atria*, *narthices*, transepts and *pastophoria*. Circumstantial limitations could impose peculiar solutions within this set of elements, *e.g.* the *narthex* adjacent to the southern aisle of the Bouleuterion Basilica at Sagalassos.[1089] The PQ 5 church is thus anything but an exception. Its location somewhat restricts the size of the building, in a sense that it obviously

[1087] Krautheimer 1979, 97-99. Richard Krautheimer clarifies the remaining differences: "*The comparative homogeneity of the church plan in the fifth century does not preclude differences in the fifth century determined by liturgical custom. The ritual of the service determines position and shape of the chancel, absence or presence and placement of* pastophoria*, martyr chapels, and other side rooms. Local ritual likewise dictates the placing of altar, pulpit, clergy seats, and possibly exedrae in the nave, position of entrances on the façade or the flanks of the building, and the separation for nave and aisles, as well as the presence or absence of tripartite or cross transepts*." (*Ibidem*, 100). He further subdivides the Early Christian lands into three distinguishable parts: the Aegean coastlands, the inland countries and the Latin West, in which he categorises Sagalassos, an inland trade centre in close contact with the Asia Minor coasts, as part of the Aegean coastlands (*Ibidem*, 112, 117).

[1088] Jacobs 2012, 128-129 Table 2; Poblome *et al.* in press. See also Talloen 2003.

[1089] Talloen 2003, II, 163.

impedes the presence of a preceding *atrium*, but still allows for a *narthex*. There is no transept, but there appear to have been at least one and possibly a second *pastophorion* on either side of the apsis, in the prolongation of the side aisles. Since no excavation has taken place in any of these annexes, it is not possible to ascribe specific purposes to specific *pastophoria*.

The second half of the 6th and early 7th century AD represent a period of actual decline in Christian architecture in the wider area (with Selge as a possible exception), but the construction of at least two of the Sagalassos churches studied in the past years (the churches at Çataloluk and PQ 5) overlap with this timeframe, suggesting a continuous trend in Sagalassos as well. The architectural style of these youngest churches in Sagalassos is in line with the 5th century and early 6th century AD churches and does not show any of the novelty aspects (*e.g.* domed structures), which would become popular from that point onwards.[1090]

In contrast to what has been proposed for churches in the urban texture of Sagalassos, it is not likely that the choice for the location of the church in the Eastern Suburbium was imposed by lack of developable land.[1091] By Early Byzantine times, large parts of the Eastern Suburbium appear to have been vacant and only occupied by derelict structures, waste deposits or agricultural land. The location must have been chosen because of its dominant position, overlooking not only the Eastern Suburbium, but also Elmalı Pınar and the major access route into the suburban quarter and because the location was a pivotal point between the Eastern Necropolis and Northern Necropolis of the city. A similar inclination to choose prevalent, meaningful positions for the foundation of churches can be observed in almost all other church locations in Sagalassos.[1092]

Interpreting the evidence

The plaster fragments, encountered in large quantities on top of the floor level within the church, continued underneath the wall blocking the passage to the *pastophorion*. This intervention must have happened after the wall plaster came down, but *before* the building suffered more irreparable damage, suggesting that the earthquake which allegedly lay the city in ruins, should be regarded as a series of earthquakes happening within a relatively short time span.[1093] The presence of a wooden floor, in contrast to painted wall plaster and marble internal furnishings, has been explained by the excavators as an indication that the embellishment of the church was still underway when the building suffered collapse and subsequent dismantlement/abandonment in the early 7th century AD.

The three rooms south of the church are difficult to interpret. *Pastophoria* in some cases can be encountered as rooms external to the main church building[1094], but the room(s) adjacent to the apsis within the PQ 5 church appear to be more likely and common candidates for an identification as *pastophoria*. A similar arrangement of rooms, with the *prothesis* and *diakonikon* flanking the church apsis, has also been encountered within the suburban church of Çataloluk in the Southern Necropolis of Sagalassos.[1095] The more makeshift nature of the structures south of the PQ 5 church, with their ramshackle walls and use of mud mortar, makes it clear that they never were a planned part of the monument. Maybe they can be interpreted as seasonal housing for the workers involved in the construction and outfitting of the church, a process which indeed still appears to have been

[1090] *Ibidem*, 171-172.

[1091] Ine Jacobs (2012, 133) suggests that the lack of land might have been the main reason for churches to usurp older structures (*e.g.* temples) or locations in the outskirts of cities. While this may hold true for other churches within the territory of Sagalassos, the reason for the siting of the PQ 5 church must be found elsewhere.

[1092] For more information, see Talloen 2003.

[1093] Similar observation have been made in other excavations in Sagalassos. In the Imperial Baths, for example, a couple of eagle-owls occupied the large Frigidarium 1 in the late 6th and/or early 7th century AD, after wall plaster had come down and the roof had partially collapsed, but before the whole upper structure gave way (De Cupere *et al.* 2009, 17-20). Also the Bouleuterion Church west of the Upper Agora showed traces of unsuccessful reparation attempts predating the final blow of the 7th century AD earthquake (Martens 2004, 302).

[1094] Krautheimer 1979, 99.

[1095] ÇO 2011 internal excavation report by Johan Claeys. For a concise (Turkish) version of this report, see Claeys & Poblome 2012c in the *XXXIII. Kazı Sonucları Toplantısı*.

underway when the building was partially destroyed in a natural disaster. The burnt spots (hearths?) encountered within Rooms 1 and 3 and the domestic waste dump from Room 1 are indications that the rooms were at least in a final phase used for some domestic purposes. On the other hand, it is highly unlikely that a space which must have been known to contain burials (as was the case for at least Room 3) would have been considered socially acceptable for regular residential purposes by any Roman, Christian or Byzantine standards.

An alternative explanation might be found in the possibly related closing off of the *pastophorion*. The closing operation must have happened when the small annex was considered as unfit (because of damage?), but while the church itself was still accessible and possible in use or under reconstruction. Several of the functions of the different spaces within the church (such as the *pastophoria*) might have been conveyed to these improvised rooms south of the church. That might explain the presence of several finds that are belongings or structural elements normally associated with the church itself, such as the fragments of the *ciborium*, the lamp stand, the vessels, *etc.* These elements cannot have ended up within these rooms through the collapse of the building, but must have been brought there intentionally.

South of the church only one burial was encountered, despite the fact that the church was located within one of the oldest and largest *necropoleis* of the city. The several pits (?) in Rooms 2 and 3 south of the church might be understood as grave robbing pits; their orientation and size seems to concur with regular sizes for pit inhumations. On the other hand, no loose human remains have been encountered within the fills of these pits or throughout the surrounding layers. The pits might have been dug with the intention to remove the complete burials, including the coffins, after the church was abandoned. After all, these burials would have been relatively recent and the next of kin might have chosen to relocate[1096] the tombs of their loved-ones to a cemetery surrounding a church that was still in use after the 7th century AD earthquake.

The church within the Eastern Suburbium was constructed at a time when most artisanal and semi-public activities were already long abandoned and the area appears to have been mainly converted for agricultural and landfill purposes. The human presence within the quarter and impact on the landscape must have declined severely in comparison to the 1st-4th centuries AD. The construction of the church shows that there were plans to further develop the area, or at least to continue the sepulchral tradition of the Eastern Necropolis.[1097] The foundation of a church was a significant investment, since it not only consisted of the actual construction costs, but also required resources for the upkeep of the building, the practice of the cult and the accompanying clergy.[1098] It might have been the intention for a community to form around the newly found church, but the particular short lifespan of the building would have impeded the formation of an actual suburban 'parish'; at least, no indications for the development of a local residential community have been encountered within the area.[1099]

[1096] Even though in many religions and cultures a sanctity rests on the deceased as regards their rights to permanent interment, this does not imply that relocation of a burial was impossible or uncommon. There are many instances in Jewish and Christian traditions of bodies being exhumed in order to be relocated in mass burials or alternatively – after the decomposition of the flesh – the bones could be collected into an ossuary (a practice called *ossilegium*). A ritual that stems from Bronze Age Cyprus, but is still applied in some Greek communities, is to disinter the individual burials in order to put them in a collective grave or tomb. Bodies can also be relocated for a variety of other reasons: in order to receive a more proper burial location or to rejoin the rest of the family, for political reasons, at personal requests, *etc.* (Meyers Emery 2011). In this specific case at the PQ 5 site at Sagalassos, one might expect that relocation of burials would have been feasible since the Eastern Suburbium was completely abandoned from the early 7th century AD onwards, while small communities tried to restore life among the ruined city or in new small-scale settlements. The burials might have been relocated to churchyards within one of these still operating nuclei.

[1097] Similar circumstances can be proposed for the church at Çataloluk in the Southern Necropolis and churches C and F in the Western Necropolis of Sagalassos.

[1098] Spieser 1986, 52; Talloen 2003, II, 154.

[1099] The closest 'village' that would account for a continued human presence within the old urban fabric of Sagalassos, was the occupation of the promontory previously accommodating the Temple of Hadrian and Antoninus Pius (Martens 2004a, 36). This *kastron* (fortified settlement), located at the southern extremity of the old city, appears to have had little dealings with the rather remote former Eastern Suburbium. The cemeteries were located in the immediate vicinity (*e.g.* the Middle

9.4 The aftermath

9.4.1 Introduction

A series of disastrous events might have struck the region from the 6th century AD onwards. Around 500 AD, the city appears to have suffered the consequences of an earthquake. Tree-ring chronologies suggest the occurrence of recurrent periods of drought in the following decades, mainly between 530 and 550 AD. Subsequently, the bubonic 'Plague of Justinianus' (also called 'Plague of Constantinopel') ravaged through the wider region halfway the 6th century AD (541-542/543 AD), with regular new outbreaks thereafter.[1100] A heavy earthquake, dated to the 7th century AD, would have caused irreparable damage to the city's infrastructure. By the middle of the 7th century, Arab (and Persian?) raiders would also have reached the Pisidian heartland, adversely affecting the economy and security of the region.[1101] Hannelore Vanhaverbeke sums up the five main changes that can be observed between the Late Roman and Early Byzantine period in the territory of Sagalassos[1102]: "*a decrease in the overall number of sites, an increased tendency toward nucleated settlement, a new emphasis on strategically located settlements, the transfer of some economic activity from the city to the countryside*[1103] *and the establishment of rural churches*." It is tempting to link these changes one-to-one with the above observations, but that would discredit the complicating role played by other socio-economic and political entanglements on both the local and regional level.

The effects of these events on the population and economy of Sagalassos are debated. The traditional view is one of gradual, but steady decline, with the 7th century AD earthquake as the final blow.[1104] The current state of research holds a more nuanced, critical approach to the perceived signs of decline and acknowledges signs of continuity throughout the 6th and 7th century AD.[1105] However, there is no doubt that the final earthquake signified a literal fault plane for the people living and working in the city, with none of the civic institutions and infrastructure continuing to function as originally intended. A major factor might also have been the disruption of the external water supply.

Nevertheless, life in the city and territory would not come to an abrupt halt. Ongoing mtDNA research on the evolution of the Sagalassos population throughout time suggests that none of the above-mentioned disasters created a sudden major decline in population. The analysis of the data rather supports a scenario of moderate contraction, with a reduction in population size between 10 and 20 %. Whether this contraction was due to an increased death rate or to migration remains an open question. The remaining part of the inhabitants either sought refuge among the ruins or spread out throughout the territory. The simulations suggest furthermore that a more drastic population decline in the study region coincided with an eventual abandonment of Sagalassos in the 13th century AD, with only a minority living on in neigbouring Ağlasun.[1106] The majority of the people appears to have moved to more distant areas in southwest Anatolia, which might be understood as a policy of organised population displacement by the by then ruling Seljuks.[1107]

Byzantine churchyard surrounding the church in the former Apollo Klarios temple precinct) and suitable agricultural land was more easily accessible south of the *kastron*, in the Çataloluk area and the Ağlasun valley.

[1100] Poblome 2014, 630-633; Vanhaverbeke *et al.* in prep; Poblome *et al.* in press. However, there are no indications for severe consequences on the population of Sagalassos (Ottoni *et al.* 2016).

[1101] Belke & Mersich 1990, 67, 86: the Arab raids would reach Pisidian Antioch in 647/8 AD, 665 AD and 667 AD and the city would eventually be looted in 713 AD.

[1102] Vanhaverbeke *et al.* 2004, Conclusions.

[1103] "*The transfer of some productive activities from the city to the countryside may be related to the disruption of trade networks associated with this instability. It is clear that during the second half of the Early Byzantine period (later 6th-early 7th century) Sagalassos had lost much of its former importance*." (Vanhaverbeke *et al.* 2004, Conclusions)

[1104] Vanhaverbeke *et al.* 2004; Waelkens *et al.* 2006, 227; Vanhaverbeke *et al.* in prep. Specifically for the research on tectonics in the Sagalassos territory, see Similox-Tohon *et al.* 2004 & 2005; Sintubin 2008.

[1105] See for example Poblome 2014; Poblome *et al.* in press.

[1106] Ottoni *et al.* 2016, 8-9.

[1107] Personal communication by Jeroen Poblome.

The case of the Eastern Suburbium was more clear-cut, with the final earthquake heralding a sudden and definitive abandonment of any permanent presence within the study region. Throughout the previous paragraphs we regularly referred to 'post-occupational features' within the Eastern Suburbium. This term is to some extent a *contradictio in terminis*, as the presence of these features per se means that the area was not completely abandoned. However, the obvious observation that all preceding properties defining the Eastern Suburbium – *i.c.* as an area displaying a mixture of artisanal, funerary, religious and social activities – were abruptly cut after the middle of the 7th century, justifies the use of the term 'post-occupational'. The area would never again be densely occupied and even agricultural activities, which by Early Byzantine times apparently started to develop (see § 9.2.2), might have come to a halt. From this point onwards, the terms 'suburbium' and '*proasteion*' become obsolete, as the study region no longer lies *sub urbe* or *pro astu* (the same impropriety of the terms '*suburbium*/*proasteion*' has been noted for pre-Hellenistic times as well, see § 4.2). Nevertheless, we will keep on using the term 'Eastern Suburbium' as the toponym for the area that can be defined by clear topographical borders as well (the Ağlasun Dağı mountain range to the north, the steep slopes towards the west and south and the eastern ridge) and which made the development of this distinguishable suburban quarter possible in the first place.

The previous chapters already established that activities within the Eastern Suburbium were changing – and in many ways actually declining – long before the 7th century AD, with several sites providing only indications for refuse handling and dismantling processes from the 4th century AD onwards. In fact, 6th century AD artisanal and building activity has only been attested at respectively the PQ and PQ 5 sites. The many 6th century AD pottery production dumps encountered throughout the area, however, indicate that the pottery industry was certainly ongoing and moreover suggest that the workshops were relatively widespread throughout the quarter instead of being nucleated in the centre. Nevertheless, by Early Byzantine times, the Eastern Suburbium did no longer possess public buildings (the construction of the PQ 5 church was in fact a turn of events), older burial monuments were dismantled and usurped, the street and water infrastructure was no longer consistently maintained and dumps covered large parts of the available land. Even in the case of the coroplast workshops, the kilns that were once used for pottery production, were turned into lime kilns before the 7th century AD.

The 7th century AD (series of) earthquake(s) would apparently put an abrupt end to an already ongoing process of prevalent change and partial abandonment and decline of the Eastern Suburbium. This event would not only have resulted in the destruction of many buildings, but might also have (partially?) disrupted the water provision of the town, which would have made the upkeep of even minimal living standards untenable.[1108] However, recent mtDNA research on the evolution of the Sagalassos population throughout time suggests that the earthquake nor the presumed 6th century AD plague created a sudden major population decline. The ABC analyses rather support a scenario in which a population decline in the study region coincided with the abandonment of Sagalassos in the 13th century AD. Other indications suggest that this was a gradual process as well, with, especially from the 11th century AD onwards, the abandonment of many agricultural lands. The associated shift to pastoralism resulted in a shift from oak woodland to pine-dominated forests and increased erosion because of the overgrazing by sheep and goat.[1109]

There is a lack of detailed survey data for the Eastern Suburbium itself, but the intensive field survey of the eastern ridge and adjacent Elmalı Pınar provide some significant data concerning the post-7th century occupation of the region: while the eastern ridge is littered with Roman and Early Byzantine remains, there is a remarkable absence of Middle Byzantine sherds on these slopes and the spare Ottoman presence is limited to the valley floor of Elmalı Pınar.[1110] Likewise, the urban survey of the Eastern Residential Quarter, which also covered parts of the site G environs, showed large amounts of finds dating to Imperial, Late Roman and Early Byzantine times, but only an insignificant presence of more recent finds.[1111]

[1108] Martens 2001, 71.
[1109] Vermoere 2004, 344-345.
[1110] Unpublished survey data collected by Femke Martens.
[1111] See for example Martens 2005, 247 Fig. 11; personal communication by Femke Martens.

9.4.2 A pastoral campsite

The features within the Eastern Suburbium that can be identified as 'post-occupational' (in the sense of 'no permanent presence') are very limited in amount and can all be associated with pastoralism: 9 corrals/shelters, 3 water sources and 2 presumed improvised shelters (**Fig. 9.17**). It is difficult to distinguish between a corral for the animals and a shelter for the herders; the only difference is the presence of a simple roofing structure in the case of the shelters. In recent examples of such shelters, the roofing consisted of a wooden frame - either a thatched roof (**Fig. 9.20**) or a flat roof covered with soil and grasses. However, these temporary roofings would not last after their decay, the remaining substructure would not differ significantly from that of the animal pens. All corrals/shelters are indeed constructed by loosely stacking limestone rubble, occasionally including some spoliated architectural blocks that must have been easily available in the immediate surroundings. In at least one case, *i.e.* the double corral/shelter in the centre of the eastern ridge, the spoliated blocks can be immediately associated with the nearby funerary *aedicula* tomb G5 (see § 7.4.4), among which some voussoirs originating from the monument's Syrian gable (**Fig. 9.18**). In two cases along the eastern ridge, vertical limestone rock walls are used as one side of the corral, which might not only have limited the need for construction material, but which might also have offered additional shelter from winds and – to some extent – precipitation (**Figs. 9.18-9.19**). All the corrals are limited in size, with none of them surpassing an inner surface of 30 m², meaning that they could only serve relatively small flocks of sheep and goats.

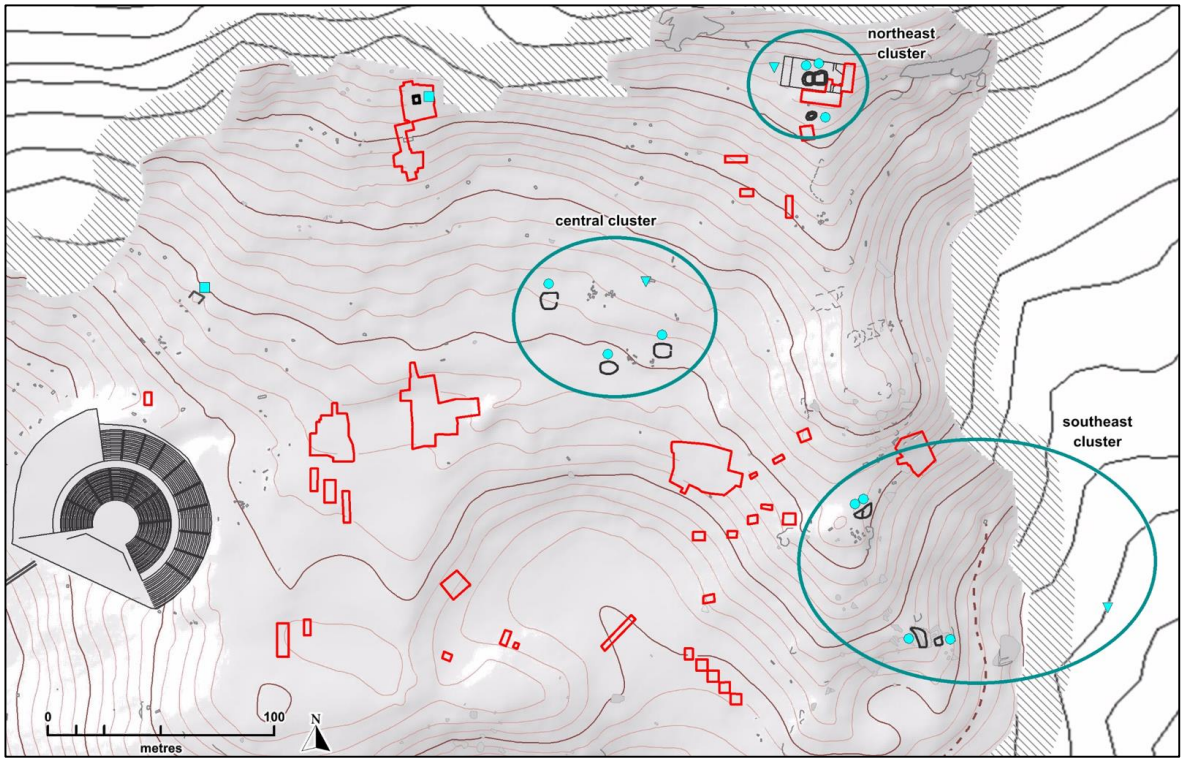


Fig. 9.17. Post-occupational pastoral features within the Eastern Suburbium, highlighted by a light green dot (corrals/shelters), triangle (water sources) or square (shelters?). They can be grouped in clusters containing three structures in combination with a water source.

The water sources themselves are made into permanent structures, which must have been maintained over the centuries. The aquifers are still (temporarily) in use; the source in the centre of the Eastern Suburbium is accompanied by a large drinking trough constructed of large, decorated *spolia* from the surrounding funerary monuments. In contrast to the pastoral corrals/shelters, the 'post-occupational' water infrastructure is jointed and lined with mortar. There are also two isolated ancient structures, in both cases rubble-built tombs, of which the remains appear to have been used as makeshift shelters: one is located north of the Theatre and one was only used as such after it was exposed during the 1990 excavations at site F (the vaulted tomb, see § 6.4.3 and §

7.4.5). These structures, especially the latter example, do not appear to have been a part of the planned pastoral presence within the area.

The lack of finds associated with these features, makes it difficult to date them; they might in fact originate in Byzantine times and have been in use till modern times. Their derelict state, when compared to the corrals still in use that were encountered during surveys on the Akdağ massif (**Fig. 9.20**), suggests that they were abandoned quite some time prior to the start of the Sagalassos campaigns. The fact that their remains consist of severely weathered, grey limestone rubble (compare with the white limestone rubble used in modern pastoral shelters, **Fig. 9.20**) is not necessarily an indication for an old age. Logically, the corrals would have been constructed of loose rubble that can be found in the immediate vicinity and the Eastern Suburbium is littered at the surface with limestone rubble that has been exposed in most occasions since ancient times. It is possible that the structures should be dated in the 16th-18th centuries, when brigandage was endemic in many mountainous areas of Anatolia. Locally, these centuries appear to have been characterised by a declining population and a shift away from agriculture towards pastoralism.[1112]

The corrals/shelters appear in small clusters of three, each time in combination with a water source (**Fig. 9.17**):

- the northeast cluster consists of two adjacent circular structures within the remains of the PQ 5 church, an additional, smaller circular corral south of the site and a water source to the west of the site;
- the southeast cluster consists of three irregularly shaped corrals/shelters (one of them (**Fig. 9.19**) is subdivided in two halves), which profit from the vertical rock walls near the bottom of the eastern ridge and from a water source along the road down into Elmalı Pınar;
- the central cluster combines three somewhat larger corrals/shelters in the centre of the Eastern Suburbium with a local water source and a large, permanent drinking trough.

In every cluster, it is probable that one of the structures served as the shelter for the herders (or even for complete mobile herding families) and that the other structures were actual animal pens.

The complete group of post-occupational features, including all corrals/shelters and water sources, should most probably be regarded as one entity – a campsite – in its own right. No similar group of pastoral structures have been encountered in the immediate surroundings (among the ruins of Sagalassos or in the adjacent catchment areas); they are all nucleated within the former Eastern Suburbium. The topographical and historical setting is not unlike the pastoral landscape of the Eastern Taurus mountains and Upper Tigris River Valley, which has been recently studied by Emily Hammer. She demonstrated that over the last 600-700 years mobile pastoral groups travelled around and camped in groups between one and six households. Hammer furthermore observed that the herders shaped their pastoral environment by investing in permanent infrastructure and by maximally profiting from the available natural resources over long periods of time. Campsites would form around clusters of cisterns, which show signs of continual use and maintenance. The cisterns would thus serve as 'landscape anchors' – geographic foci that structured the spatial organization of the local landscape and encouraging the seasonal re-inhabitation of specific campsites. The relationship between these campsites, the surrounding environment and other types of settlements behaves in a patterned way, with these patterns being related to the features' function and use. Hammer demonstrated through cost distance measures that the campsite enabled herders to take advantage from pastures that were further away. The campsite itself would be located near to but not within the highest value herding grounds, possibly in order to prevent the heavy animal trafficking from ruining the vegetation. Hammer concludes: "*Mobile pastoralists in the study area did not merely exploit agriculturally marginal land; they inhabited a topographically uneven zone with fragmented patches of variable-quality vegetation and transformed this territory into a productive herding landscape through the construction of infrastructure, altering vegetation patterns and water availability, and sheltering themselves and their animals with locally available materials.*"[1113]

[1112] Martens 2004, 37.
[1113] Hammer 2014, esp. 285.

The similarities with the Eastern Suburbium pastoral campsite are obvious and legion, as far as can be concluded on the basis of the more superficially studied data. The campsite within the boundaries of the former Eastern Suburbium of Sagalassos formed around a cluster of natural aquifers, which were structurally enhanced and regularly maintained. All the structures were erected with the locally abundant limestone rubble and architectural remains. The site consists of three individual clusters, each consisting of two corrals, a shelter and a cistern, that could have sustained three herding households with their flocks. Two of the clusters are located on the rocky outcrops of the eastern ridge, close to but not occupying useful pastoral land. The central cluster, however, does not seem to follow the same logic, unless the immediate surroundings of this cluster was too rocky to be considered as a suitable pasture (taking in account as well that centuries ago even more architectural remains would have been straddling the surface). The campsite was isolated, but probably not completely independent from similar campsites and from other contemporary human settlements; the daily herding commute would have covered suitable patches of land in a wide environment.

Fig. 9.18. Double corral, located centrally on the eastern ridge of the Eastern Suburbium, protected on its northwestern side by a steep rock wall. The two 'door posts' that serve as the entrance to the corral are architectural elements from the nearby *aedicula* tomb.

Fig. 9.19. Corral located northeast of the limestone quarry in the southeast of the Eastern Suburbium, protected on its western side by a vertical rock face.

Fig. 9.20. Examples of temporary pastoralism shelters in the wider region, as documented in 2012 during surveys on and around the Akdağ Massif northeast of the site of Sagalassos. These structures always appear in combination with one or more corrals, with a water source in the immediate surroundings and within or at the edge of relatively level pastures.

PART 3. THEMATIC SUBURBAN TOPICS

10 DEVELOPMENT AND DISINTEGRATION OF THE EASTERN SUBURBIUM

10.1 Diachronic functional development of the Eastern Suburbium

10.1.1 Introduction

In the previous chapters (see Part 2, Ch. 4-9) we have presented the data available from the Eastern Suburbium in a chronological order. While this was the most logical manner in which to present this information (see § 2.2.3), additional observations might be made by exploring the diachronic functional development of the site. In the next paragraphs we will present the data as follows: the infrastructure (see § 10.1.2 on the development of public infrastructure and the 'monumental' quarter), the artisanal activities (see § 10.1.3 on the development of the artisanal activities) and the funerary culture (see § 10.1.4 on the establishment of the Eastern Necropolis).

The diachronic overview of the public architecture not only considers the layout of terraces (see § 5.2), streets (see § 6.2.1) and aqueducts (see § 7.2.2), but also the development of a relatively short-lived 'monumental' quarter in the southeastern quarter of the Eastern Suburbium, including the site G complex (see § 6.5.1 and § 8.5.2), the PQ 2 *schola* (see § 6.5.2 and § 7.5.1-7.5.3), the honorific column (see § 7.5.5) and other presumed structures belonging to this quarter (see § 8.5). Artisanal activities include the clay quarry of the Central Depression (see § 5.3.2), the limestone quarries of the Eastern Suburbium, Elmalı Pınar and Gökpınar (see § 5.3.1), the *sarcophagus* carving in the southeast of the *proasteion* (see § 7.4.8), the potters' quarter (see esp. § 6.3.1 and § 8.3.3) and the potential presence of other artisanal activities (see § 6.3.5). The funerary presence consists a wide variety of burial types – ceramic cremation urns (see § 5.4.2), stone *osteothekoi* (see § 5.4.3), (a) (primary) cremation context(s) (see § 6.4.1), *sarcophagi* and *chamosoria* (see § 7.4.8), *arcosolia* (see § 7.4.9), pit inhumations (see § 6.4.2 and § 7.4.7 and § 8.4.4), individual tombs (see § 6.4.2 and § 7.4.2), vaulted (family) tombs (see § 6.4.3, § 7.4.5 and § 8.4.1), *aedicula* tombs (see § 5.4.4 and § 7.4.4), *naiskos* tombs (see, § 7.4.2-7.4.3 and § 8.4.3), other monumental tomb types (see § 7.4.6) and burial compounds (see § 6.4.4, § 7.4.3 and § 8.4.4) – which all have their limited life span throughout the history of the Eastern Necropolis.

A functional subdivision of activities is also a justifiable approach to this thesis. Even though we have noticed overlap between various types of activities, especially associable with overcrowding, **Fig. 10.1** shows that there was to a large extent a segregation of activities. One of the explanations for this subdivision is the fact that different activities have different needs, which would lead to a natural subdivision of the available terrain (see § 11.2.3). However, when taking into account property rights, the street network and overlapping interests, it seems that there might have been a level of planning (on a municipal or communal level) behind the general layout of the *proasteion*.

This chapter also contains an alternative approach to the study of the Eastern Suburbium, through an introductory study of the numismatical data (see § 10.1.5). We already used statistical data on coin finds in one specific setting (PQ 2, see § 7.5.2). In this chapter we wish to compare coin loss in the Eastern Suburbium with coin loss from the rest of the site and try to evaluate the preliminary statistical results.

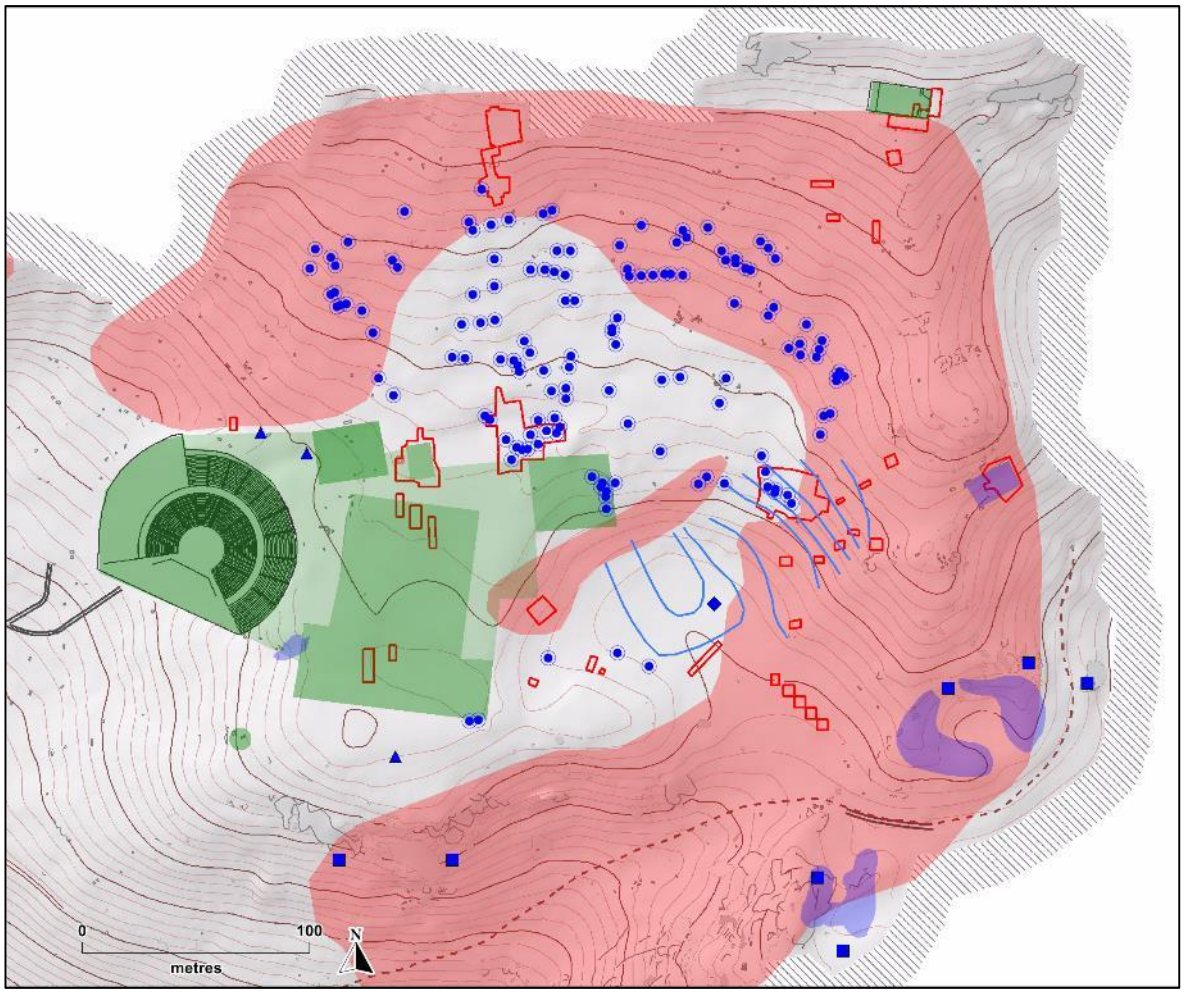


Fig. 10.1. Map of the Eastern Suburbium, showing the functional segregation between different purposes. The maximum extent of the Eastern Necropolis is indicated in red, the (semi-)public architecture in green and the artisanal activities in blue (see resp. Fig. 10.2, Fig. 10.3 and Fig. 10.4 for more detail).

10.1.2 The development of the public infrastructure

Layout of terraces, streets and aqueducts (**Fig. 10.2**)

The terracing of the Eastern Suburbium's northern slopes could be dated to Classical/Hellenistic times, probably originally in order to increase the amount of arable land in the immediate vicinity of the contemporary settlement. Terraces appear on regular intervals and logically follow the local contour lines. Only some of the terraces at site F could be convincingly dated (see § 5.2.3). In many cases, however, the dates of terraces can be relatively dated, based on the features and infrastructure that abut them or that are supported by them. It is likely that at least part of the other terraces came about only when the quarter started to fully develop into a built-up area, but in most cases the terrace walls must have been present before the *proasteion* structurally developed.

The layout of the terraces was probably conceived simultaneously with the layout of the street network, even though it is difficult to establish to what extent these communal efforts were centrally planned and organised. Land ownership and shared interests would probably have played as much part in the development as the more obvious practical issues concerning the topography and the presence of older structures. One of the main roads, which would become the lifeline enabling the further artisanal and communal development of the Eastern Suburbium, was the road coming into the quarter from the southeastern Elmalı Pınar and Gökpınar areas. The

layout of the road would have required some investment and serious efforts in order to make the road accessible/passable for carts. It is likely that the original purpose of this road would have been is use as a quarry road. Certainly the final stretch of this road, leading from the limestone quarry in the southeastern corner of the Eastern Suburbium, through the Central Depression, along site G to the north and further down towards the city centre, would have served from Late Hellenistic times onwards, as stones from the eastern quarries were used in the construction of Late Hellenistic monuments in the Upper and Lower City. The road would keep functioning at least till the end of the 2nd century AD as a quarry road for the construction of the Theatre. A well-preserved part of this same road, further down in the Gökpınar area (see **Attachment 15**), was also identified as an ancient quarry road during multidisciplinary surveys in the area. Large intermediate parts of the route could only be reconstructed on the basis of indirect evidence (votive panels and funerary remains lining the route, estimation of the maximum slope, *etc.*). The road would also have served an important purpose for the development of the artisanal quarter from Early Roman Imperial times onwards, since it would allow the transport uphill of large quantities of raw clay quarried in the Çanaklı valley. Also wood and charcoal for construction and for fuel might have been hauled into the quarter through this road, while also a road/path coming into the quarter from the east, passing south of the PQ 4 burial compound, might have served a similar purpose. In any case, it is plausible that the road would have been maintained throughout the (artisanal) history of the Eastern Suburbium.

The close link between streets and terraces is also visible in other parts of the *proasteion*, with some of the main streets being supported by retaining walls on one or both sides. This is for example the case for the main east-west axis through the quarter (the street passing north of site PQ 2) and for the street/path north of the east-slope workshops and *naiskos* tomb at site PQ 1. This is a logical consequence of the topographical characteristics of the area, with east-west oriented terrace walls creating relatively level ground by following the contour lines. North-south oriented streets and paths, on the other hand, would have to surmount a series of consecutive terraces. The steepness of the terrain, especially along the slopes in the north, east and west, would imply that these streets could not support wheeled traffic. Probably each terrace had to be overcome with a stepping arrangement. No conclusive examples of such arrangements have been encountered in the excavation trenches, but the stepped series of walls south of site PQ 1 (see § 6.3.2) and the missing gap in the central retaining wall at the lower terraces of site F (see § 5.2.1) hint at such arrangements.

Most roads in the Eastern Suburbium were undoubtedly unpaved. The excavated section of the main east-west street north of the PQ coroplast workshops, however, showed that the gravel surface of the street was regularly renewed, while the original 1st century AD road surface was even paved with volcanic tufa slabs. A similar gravel surface was encountered in one of the test trenches along the southwestern side of the Central Depression, where the geophysical surveys suggest the presence of the main (quarry) road climbing out of the depression. The geophysical surveys furthermore suggest that this part of the main road was lined on both sides with walls, probably in order to raise the road above the wetlands of the depression. At the coroplast street section, a ditch filled with soil and small limestone rubble was observed to line the street along its southern edge, in between the street and the terrace wall. No similar arrangement was encountered north, upslope of the street.

It seems that the Upper Eastern Aqueduct (see § 7.2.2), which was most likely constructed in Middle Roman Imperial times, would also have benefitted from the presence of level terraces along the northern slopes of the quarter. The aqueduct would have required a steady and very temperate slope, which the terraces could provide. Segments of the aqueduct have been exposed at the UA trenches as well as at site F. Its layout along the terrace wall in site F suggested that the aqueduct was dug into an existing terrace instead of a newly erected one. Likewise, the discovery of fragments of (Hellenistic) cremation urns at the Eastern Aqueduct (EA) trenches proves that this steeply sloping area was already in use, and thus most likely terraced, before the construction of the aqueduct.

Once terraces and streets were shaped into a set framework, probably before the middle of the 1st century AD, it is probable that these were subsequently subjected to only minor changes in the centuries to come. Land

ownership rights and boundaries between different plots were undoubtedly also defined by these features. It is thus likely that other structures had to adapt to fit into this straitjacket of terraces, streets and property rights. One area in particular, *i.c.* the southwestern quarter of the Eastern Suburbium, seems to have been conceived in a more organised fashion (see further).

While most of the (street and water) infrastructure in the Eastern Suburbium would mainly have served local needs, this would have been different for the Eastern Aqueduct(s) and the main road coming in from Elmalı Pınar. The aqueduct was most likely meant to supply the Upper City and the main street would have been a thoroughfare that also could have served the interests of other parts of the city, since it was probably one of the few roads into Sagalassos that could be surmounted with a cart. It is therefore likely that the maintenance of these features was a municipal matter, while the upkeep of other infrastructure in the area might have been a communal task. In any case, even the local infrastructure (terraces, roads and water channels) was serving the interests of several parties, and its maintenance would thus have transcended private efforts. There are indications that parts of the terraces along the northern slopes were no longer maintained from the 5th century AD onwards, while roads towards and in the centre of the Eastern Suburbium were probably kept operational until the end of artisanal activities within the quarter around the middle of the 6th century AD (see § 10.3.2).

The rise and demise of a 'monumental' quarter (**Fig. 10.2**)

The southwestern quarter of the Eastern Suburbium can be distinguished from the rest of the Eastern Suburbium because of a series of particular characteristics:

- This is the most level part of the *proasteion* and the largest uninterrupted stretch of level ground within the city of Sagalassos and its immediate surroundings.
- There are no indications for development of this area until the middle of the 1st century AD, but the quarter appears to have been fully occupied before the end of the century.
- All structures within this quarter are either oriented NNW-SSE (the southern part around site site G) or NNE-SSW (the northern and eastern part, which includes PQ 2 and the building southeast of the PQ coroplast workshops). While the orientation of some structures might be implied by the local topography, this seems not to have been the case for the large building southeast of the coroplast workshops. Especially in the southern part of the quarter there were no topographical confinements that would have impeded buildings to follow alternative orientations, which is why the layout of the whole area seems to have been conceived as a whole.
- The technical quality of these structures set them apart from the artisanal infrastructure. While they cannot be compared to monumental structures in the city centre, they are comparable with rubble-built funerary monuments elsewhere in the Eastern Suburbium (*e.g.* the PQ 1 *naiskos* tomb). The walls are completely built in mortared limestone rubble, with the use of ashlars on strategic points, and are supported by high, protruding foundations.
- Not only the genesis, but also the abandonment of the buildings in this quarter is distinguishable from the other parts of the *proasteion*. The two buildings that have been (partially) excavated were abandoned respectively in the late 3rd century AD (the PQ 2 *schola*, see § 7.5.3) and around the middle of the 4th century AD (the site G complex, see § 8.5.2). The annexes of the large building southeast of the coroplast workshops even appear to have been abandoned as early as the 2nd century AD.
- When considering the wider surroundings, the buildings in the southeastern quarter seem to constitute a larger zone including public structures such as the Theatre, the honorific column and a presumed bath building immediately south of the Theatre (not indicated on **Fig. 10.2**).

Throughout this thesis, we have considered the southwestern quarter as a separate entity within the Eastern Suburbium specifically because of these criteria. While the topographical qualities of this area might initially only

have been appreciated for agricultural purposes, the Late Hellenistic and Early Roman Imperial city sprawl would imply that this area, too, would become incorporated in the *continentia aedificia*. The area would not be incorporated into the artisanal potters' quarter and this seems to have been a deliberate choice, either by the landowner(s), by the municipality or by both parties. The area would serve its purpose for only a relatively short amount of time, in comparison with the other areas and activities within the *proasteion*. While the Eastern Suburbium bears witness to at least 800 years of funerary and artisanal activities (Mid Hellenistic to Early Byzantine times), the 'monumental' southwestern quarter probably functioned for only 300 years (*c.* 50 – 350 AD) or even less in the case of individual buildings, such as the PQ 2 *schola* (*c.* 50-275 AD). This obviously raises the question as to where the associated activities might have moved to. In the case of the site G complex it has been explained as evidence for a 'ruralisation' of the practice, which has also been attested in various Italian localities[1114] and for which a possible link might be found in the cattle bones (see § 6.5.1). There is also no straightforward answer to the reason for the abandonment of the PQ 2 site. It is highly unlikely that it would have meant the end of the type of amenities it provided, since the presumed 'working class' public would not have disappeared. The 'final banquet' context suggests that the abandonment was not an impulsive decision, but part of a larger plan. Since throughout history the Eastern Suburbium was clearly an important centre for artisans, we would imagine an alternative location for communal dining nearby. Within the Eastern Suburbium itself, there are few structures that appear to have been equipped with the necessary provisions for these events. Therefor, it is not unlikely that this type of activities shifted towards the Eastern Residential Quarter, where alien activities have been encroaching upon the residential texture from at least the Late Roman period onwards (e.g. at the site Library East).

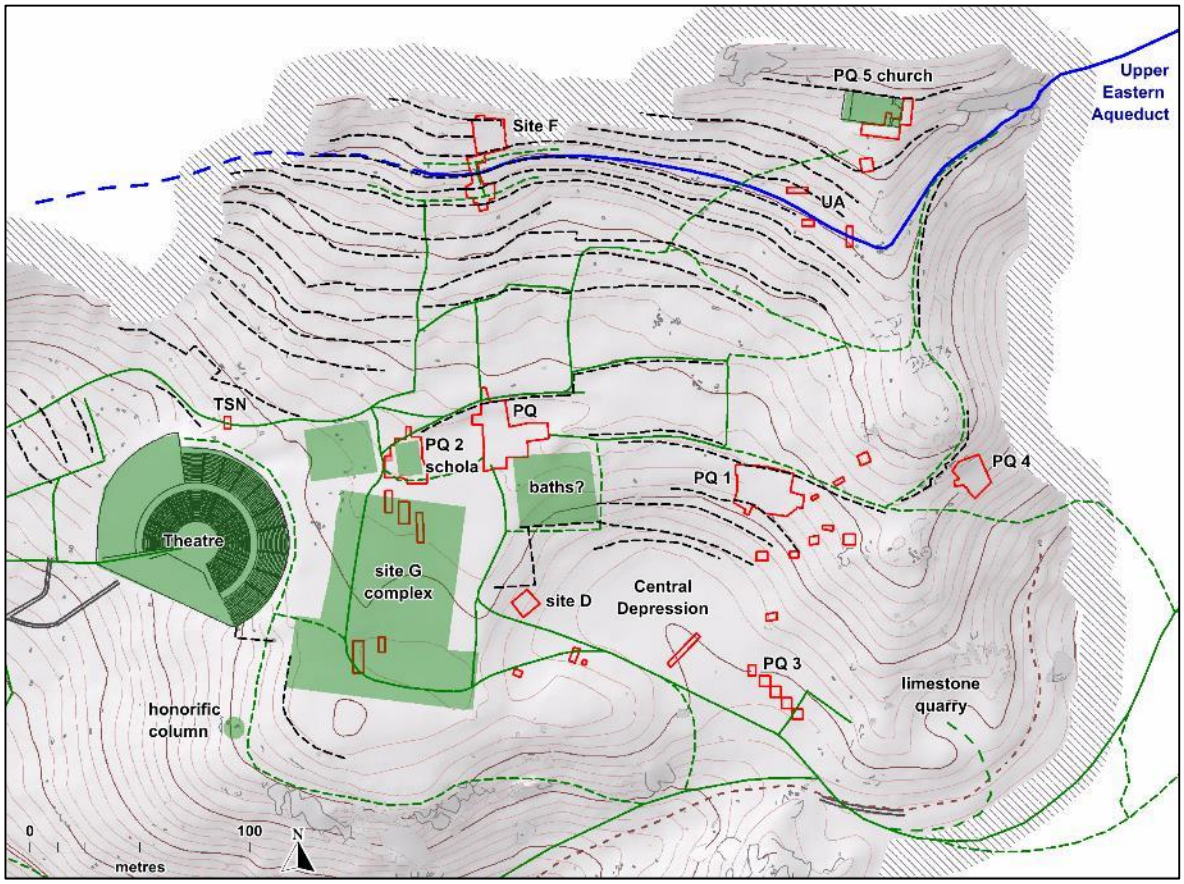


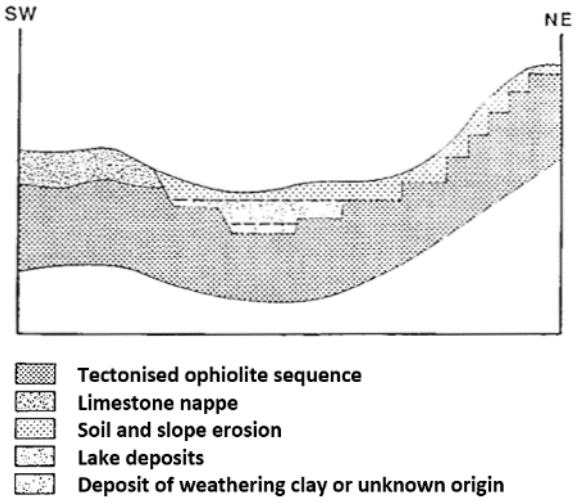
Fig. 10.2. Overview of the monumental and/or (semi-)public features in the Eastern Suburbium. The street network is indicated with green lines, the (presumed) terracing with dashed black lines, the Upper Eastern Aqueduct with a blue line and the buildings are shaded in green. For more detail, see Attachment 12.

[1114] De Ligt 1993, 60-62.

None of the buildings in this quarter could be conclusively identified. The strongest case is made by the PQ 2 building, which in its final phase served for communal dining (see § 7.5.2), but whether this building was run by a public instance, a private person or an association could not (yet) be determined. The working hypothesis of the site G complex is that we are dealing here with a *campus*, *i.e.* a multi-purpose suburban complex that could have hosted mass events such as festivals, cattle markets, *etc.* The building southeast of the coroplast workshops, the largest single structure in the Eastern Suburbium (*c.* 1,140 m² or three times the surface of the PQ 5 church), bears strong resemblances to 'hall-type' baths or to schola*e* centred around a colonnaded courtyard (see § 6.5.3). Other identifications cannot be excluded either. The spatial unity, the similarities in building style and orientation and the parallels in its development history seem to suggest that one single initiator might have been behind the planning of the area. If that is the case, then buildings such as the PQ 2 *schola* were most likely rented out to associations, families or any type of group that needed a (semi-)public space for their (semi-)private gatherings, which is not unlike any modern parish hall.

10.1.3 The development of the artisanal activities (Fig. 10.3)

In contrast to the previous paragraph, it is in fact not opportune to speak of 'an artisanal quarter' in the case of the Eastern Suburbium. While the potters' quarter can be considered as a self-contained entity, other artisanal activities within the area developed according to their own internal logic, which was to a large extent defined by the local geology and topography: stone quarries were dependent on the availability of large sections of outcropping limestone and the clay quarry could only be established in the basin-shaped Central Depression. This would imply that these activities came about in areas that were unsuitable for other types of activities or presence, even though quarry faces could be reused for *arcosolia* or votive inscriptions (see § 6.2.1) and the wet grounds of the Central Depression could eventually serve as a large landfill (see § 8.6.1 and § 11.2.2).



From PQ 1998 internal excavation/coring report, by Jeroen Poblome and Patrick Degryse.

The earliest artisanal activities were probably the quarrying activities in the clay beds of the Central Depression. These clays were most likely originally used by the Middle Hellenistic pottery production quarter that was located at the site of the later Odeion (see § 5.3.2). Based on a series of boreholes a tentative reconstruction of the terraced structure of the quarry has been proposed (**Fig. left**). The quarrying activities would have been going on till at least Late Hellenistic times; some parts of the quarry might even have been exploited throughout Roman and Early Byzantine times as the source for the slip used in the Sagalassos Red Slip Ware (SRSW). The quarry activities extended at least towards the southern edge of the Central Depression, where they were recognised in one of the PQ 3 trenches.

The largest known limestone quarry in the study area has been encountered in the southeastern corner of the Eastern Suburbium, while several smaller quarries have been identified in the Elmalı Pınar and Gökpınar areas. There are no known construction sites south of these quarries, so it is probable that they served building projects in the *suburbia* itself and in the city centre. An adequate quarry road would have been necessary to manage the transport of these stones uphill; stretches of such a road have been recognised at Gökpınar and within the Eastern Suburbium itself (see § 10.1.2). Once this road was laid out, this would have been an impetus for the establishment of the pottery production within this quarter, since the area would have been accessible by wheeled traffic. Building blocks carved from the so-called 'eastern quarries', which supply a petrographically

distinguishable type of limestone, have been used in various monuments in the city centre from Late Hellenistic times onwards. The final main building project in which these quarries were involved appears to have been the construction of the Theatre, for which the nearby limestone quarry within the Eastern Suburbium itself – which involved only 10 m of uphill travel for the blocks to reach the upper stretches of the building site – would have been particularly suitable.

Sarcophagus carving would have constituted another major factor in the need for high-quality limestone, especially from the 2nd century AD onwards (it has been suggested that at least some of the undecorated *sarcophagi* and *chamosoria* in Sagalassos might be older, see § 5.4.4 and § 7.4.8). A work area that was most likely used for *sarcophagus* carving has been recognised south of the Central Depression, on top of the steep slopes that are riddled with *sarcophagi* and rock-cut *arcosolia* and *chamosoria*. With the lack of new building projects from the 3rd century AD onwards and burials in *sarcophagi* growing 'out of fashion' by the middle of the same century, the quarries of Sagalassos would no longer be exploited (later building projects would mainly use *spolia* from other buildings).

The presence of a suitable transport road (the quarry road) might have played an important role in the choice for the Eastern Suburbium as the main artisanal area. Other factors might have played their part as well, such as the access to water and fuel sources, the proximity to the markets, the property rights, but also the low impact of the industry on the city centre (an independent road into the quarter, a location above and out of sight of the city centre and residential quarters). In fact, path dependency would have played its role as well: potting was already ongoing in the vicinity (the potters' quarter near/underneath the later Odeion) from Hellenistic times onwards and local clays (from the Central Depression) were probably already in use. The whole process can thus also be understood as a mere relocation and upscaling of an already existing industry. We already established that the the black glazed ware preceding the Roman Imperial production made use of the same Çanaklı clay source (see § 6.3.1). In any case, the central part of the Eastern Suburbium would from Augustan times onwards be developed into a large-scale potters' quarter, where many workshops would operate side by side simultaneously. The clay used for the body of the SRSW (other types of ceramics were produced elsewhere, possibly in the countryside) were imported from the Çanaklı valley, while the clay necessary for the slip was possibly still quarried in the local Central Depression quarry (other sources cannot be excluded, however). The geophysical surveys provide us with a relatively good idea on the extent of the quarter and the amount of kilns (or rather 'kiln locations', since they were likely to be rebuilt repeatedly on the same spot) in use, but do not provide the necessary data to enable us to detect which workshops/kilns would have functioned simultaneously. Nevertheless, data obtained from excavations, *i.c.* the PQ coroplast workshops (see § 8.3.2), the PQ 1 east slope workshops (see § 6.3.2 and § 8.3.1) and Library East (LE) coroplast workshop, prove that workshops as well as 'kiln locations' could be in use for centuries. Considering the fact that other workshops elsewhere in the territory would be involved in the production of coarse wares (mainly used for cooking, storage and transport) and building ceramics, it can be rightfully stated that a proportionally large part of the working population of Sagalassos would have been, at least seasonally, employed in the ceramics trade.

The detection in 2013 of the Late Roman (5th century) pottery workshop at site LE[1115], located outside of the Eastern Suburbium in the upper stretches of the so-called Eastern Residential Quarter, implied that either the potters' quarter was larger than previously assumed or rather that the artisanal activities were no longer constrained to the *suburbia* from Late Roman times onwards. The reasons for such a shift are not easy to establish. By the 5th century AD there would have been enough vacated plots within the *proasteion* (see § 10.1.2) to allow for further development of the pottery trade in the core area itself. Even if waste dumps and landfills would increasingly take up large tracts of land (see § 11.2.2), there are also indications that previous dumping grounds were being reused for agriculture. The settling of a workshop in a former public building east of the Library in any case fits within a wider picture, as many contemporary shifts have been observed across the real

[1115] Poblome *et al.* accepted.

and imaginary boundaries that separated the different 'levels of urbanisation' as exposed in § 3.2 (see § 10.3.3 for a more thorough discussion of this matter).

The production of SRSW would continue uninterruptedly within the Eastern Suburbium (and eventually also within the Eastern Residential Quarter) until the middle of the 6th century AD. Evidence for this final date is not only based on the excavations of the PQ coroplast workshops, but also on the complete absence of SRSW Phase 9 in the many dumps encountered in excavations and at the surface throughout the *proasteion*. The kilns that were in use till the end at the coroplast workshops were subsequently used for lime burning. The only known contemporary building project within the Eastern Suburbium at that time was the PQ 5 church. There are no indications for the construction of new monumental funerary tombs after the later 3rd century AD (see § 10.1.4) and the buildings in the southwestern quarter of the Eastern Suburbium were by that time abandoned and even partially dismantled.

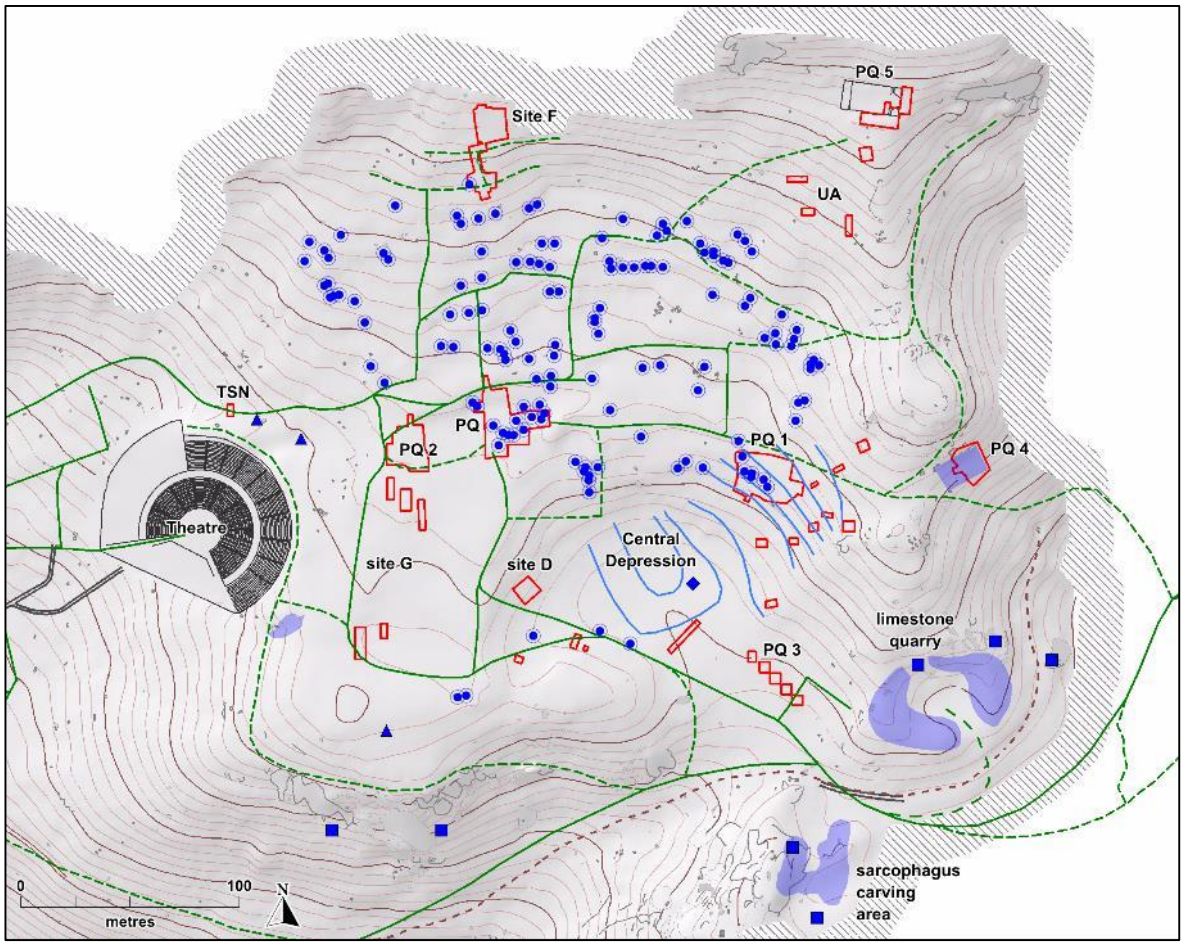


Fig. 10.3. Overview of the artisanal features in the Eastern Suburbium. The street network is indicated with green lines, the (pottery) kilns with dots, the (presumed) metallurgy activities with a triangle, the clay quarry with a diamond (and blue lines indicating the terraces), the stone quarries with squares and the stone quarry dumps are shaded in blue. For more detail, see Attachments 15 and 16.

10.1.4 The development of the Eastern Necropolis (Fig. 10.4)

In § 5.4.1, § 7.4.1 we already set out the historical setting and contemporary developments in funerary culture. This research topic is in itself a thesis-worthy subject and the publication by Veli Köse on the *Nekropolen und*

Grabdenkmäler von Sagalassos (SEMA 7)[1116] has covered most of its aspects. Therefore we will limit ourselves to a diachronic overview of the data presented in Part 2, specifically for the Eastern Suburbium.

The earliest evidence for burials in the *proasteion* consists of a series of urn cremations, which could most likely be dated to the Mid Hellenistic period (see § 5.4.2). The assemblage of burials was found stacked along one of the terrace walls on the lower terraces of site F. One more urn was found on the higher terraces of site F and fragments of what are believed to be have been Hellenistic urns have been found at various locations along the northern terraces (throughout site F and in the UA trenches, see § 7.2.2), proving that the burial practice was probably already wide-spread along the northern, terraced slopes of the *proasteion*. These urns were not purposely shaped *cineraria*, but reused cooking vessels, with mainly tableware used as lids. The oldest stone *osteothekoi* in the area might also date to Mid Hellenistic times (see § 5.4.3). Most of the known *osteothekoi* in Sagalassos originate from the Southern Necropolis, which is one of the arguments to claim this *necropolis* as the oldest in Sagalassos. The examples known from the Eastern Necropolis are mainly fragments encountered in excavations or as loose finds, but in most cases their find location falls within the expected spatial range: along the slopes of the Eastern Suburbium or along the main roads leading into the area (north and northwest of the Theatre, Central Depression and Elmalı Pınar, see **Fig. 5.40**). During Hellenistic times the central areas of the Eastern Suburbium were probably still in use for agricultural purposes. Also more monumental tombs were already erected in (Late) Hellenistic times, as demonstrated by the Π-shaped tomb at the northern terraces of site F, following in a tradition of early *aedicula* tombs in Anatolia. This tomb was most likely used as a shrine for *osteothekoi* or for a(n early) *sarcophagus* (parts of un undecorated *sarcophagus* were encountered south of the monument). While other *aedicula* tombs in the *necropoleis* of Sagalassos have been dated to Middle Roman Imperial times (see § 7.4.4), the presence of this monument proves that there was a local tradition of this type of structures.

While the use of *cineraria* (both *osteothekoi* and terracotta urns) and primary cremations was still ongoing, inhumations would become a more common feature in Early Roman Imperial times. The shift between different burial practices, especially the choice between cremation and inhumation, is a long debated topic (see § 5.4.1). While attempts are being made to recognise geographical and chronological patterns, it needs to be acknowledged that local (and personal?) burial customs and traditions would in many ways play their part. In the case of Sagalassos, it is not inconceivable that inhumation and cremation practices already existed side by side in Hellenistic times. The Π-shaped monument at site F might be a case in point.[1117] The earliest attested inhumations in Sagalassos, however, were encountered within the PQ 4 burial compound and could be dated to the end of the 1st or early 2nd century AD (see § 6.4.2). While the whole compound awaits further excavation (planned for the 2016 campaign), these constructed tombs are interlocking with the foundations of the compound, thus providing a clear criterion for its construction date. The rich grave goods contrast with most of the other (later) burials encountered within the compound and suggest a close (familial?) link with the founder of the complex, who probably had a separate tomb chamber to him- or herself. The construction of the vaulted family tomb at the northern terraces of site F probably dates from around the same time (end of 1st or early 2nd century AD), even though the remains encountered in the tomb date to the 4th century AD. This practice of reusing or usurping older tombs, from Late Roman times onwards, has been attested at various locations throughout the *proasteion* (see further).

One unique funerary context, a primary cremation, encountered on the upper terraces of site F dates most likely to the 2nd century AD (see § 6.4.1). An *ustrinum* was erected southeast of the Π-shaped tomb and fitting burial gifts were added to the funeral pyre. Since the *ustrinum* was erected at walking level, the remains of the pyre could not end up in a pre-dug pit, as is usual for *bustum* burials. The burnt human bone remains were however also not collected in order to be interred elsewhere. Instead, bent and pinched nails were strewn around the

[1116] Köse 2005a.

[1117] On the other hand: while *sarcophagi* were clearly designed for inhumations, they could also contain cremated remains.

remains of the burnt out pyre, which was subsequently covered with 24 regularly placed bricks and a thick layer of lime. While any reconstruction on the intentions of these particular features remains hypothetical, the use of (disabled) nails, stones (to weigh down the deceased) and the purifying/dissolving qualities of lime have all been associated with 'magical' funerary practices attested in various contexts throughout the ancient world. In this particular context, we suggested a possible 'bad' death for the deceased, since he was buried according to appropriate rituals, while the posthumous protective measures seem to have been directed to safeguard the living rather than the deceased.

A next (gradual) shift in funerary culture would appear in the 2nd century AD, this time rather in form than in substance. The Middle Imperial period would see the temporary 'popularisation' of monumental tombs (see § 7.4.2-7.4.6) and *sarcophagi* (see § 7.4.8) and the advent of *arcosolia* (see § 7.4.9) as a variant on the *osteothekoi*. During this period the Eastern Necropolis of Sagalassos, which traditionally covered the steeper slopes around the *proasteion*, would gradually become crammed and tombs would start to encroach upon the more central parts of the Eastern Suburbium. Since these parts were already taken up by artisanal activities, various plots were changing purposes. This has been witnessed at site PQ 1, where the *naiskos* tomb would be built on top of the remains of a pottery workshop. The geophysical and field surveys of the area suggest that this was not an isolated incident. In many cases the monumental tombs were incorporated in larger burial plots surrounded by *periboloi* (see § 6.4.2 and § 7.4.2-7.4.3). Based on the estimated dimensions of those enclosed burial plots throughout the Eastern Suburbium (site F, PQ 1, PQ 3, PQ 4 and G7, see **Fig. 10.4**) it can be concluded that there is no standard plot size. The burial plot of tomb G7, which probably contains a second monumental tomb (**Fig. 7.45**), measures *c.* 950 m², which would mean that the *necropolis* would easily be covered by such large plots. It is therefore plausible that the larger plots were used for the burials of the complete extended family, including slaves and clients. Additional burial space was either offered in the hypogeia of the main monument (as was the case in the PQ 1 *naiskos* tomb, see § 7.4.2) or in more simple burial forms throughout the funerary plot.

We should also keep in mind that burial plots might have served an economic purpose. Land prices in the immediate vicinity of the city centre were high, and the produce of cultivated burial plots could aid in the costs for a watchman, for the maintenance of the tomb or for festivals and funerary meals dedicated to the deceased. Proof for funerary meals have been encountered at site F, in the form of several pits containing the smashed and buried remains of ceramic vessels and meals. Some burial plots might even have been equipped with accommodations for such activities, although no such evidence has (yet) been encountered at the Eastern Suburbium. This period also made it clear that the location of positioning of burials was intended on drawing as much attention from the passers-by as possible. This could be achieved either by monumentality or by a notable location. The Eastern Suburbium offered three options for a conspicuous funerary setting: along one of the main thoroughfares, *e.g.* the PQ 3 *Gräberstrasse* (see § 7.4.3) or the PQ 4 burial compound (see § 6.4.2); on top of a mountain ridge (*e.g.* tombs G5 and G6, **Fig. 10.4**); or along the slopes overlooking either the Central Depression (*e.g.* site D, see § 7.4.5) or the whole Eastern Suburbium (*e.g.* the Π-shaped funerary monument at site F, see § 5.4.4). Similar observations can be made for the *arcosolia* and *sarcophagi*, many of which line the path/street that leads down from the Central Depression into the Lower City.

This funerary development spree would gradually come to a halt in the 3rd century AD. In the Eastern Suburbium, there are no more indications for monumental tombs from the 4th century AD onwards. Two individual built-up tombs, dug into the ground at site F (see § 8.4.2), and several simple pit inhumation from site PQ 4 (see § 8.4.4), can be dated to the later 3rd and 4th century AD. Even if these burials would have been marked with a funerary *stela* (for which there is no evidence), it is obvious that these tombs were not competing for attention. The Late Roman period also witnesses the reoccupation of older tombs, such as the family tombs of site D and site F in the 4th century AD (see § 8.4.1) and the PQ 1 *naiskos* tomb in the 5th century AD (see § 8.4.3).

It is not certain at what time Christianisation would influence the burial process in Sagalassos. In Early Byzantine times in the East, simple inhumation burials oriented towards the east were not necessarily univocally Christian

and more elaborate tombs containing some burial gifts were not necessarily pagan. The standardisation of burial practices would only gradually take root throughout the Christian world.[1118] Nevertheless, we have examples of Early Byzantine suburban burials in Sagalassos that are certainly Christian: one east-west oriented inhumation was encountered in the foundation trench of the PQ 5 church (see § 9.3.2) and several east-west oriented single-burial tile graves in the form of a pitched tent (*a cappuccina*) were encountered at the church site at Çatal Oluk, south of Sagalassos.[1119] It is also possible that some of the burials near the Apollo Klarios cemetery predate Middle Byzantine times; they are currently the subject of an ongoing study.[1120] A recent geophysical survey by means of electric resistivity tomography moreover confirmed the presence of tombs around the (martyre?) church erected in the Stadion.[1121] Their east-west position, the lack of rich burial gifts and the immediate vicinity of a church are obvious factors. Site F has also yielded several pit inhumations, dated to the 3rd or 4th century AD, which were oriented east-west, with the hands folded on top of the pelvis and without any burial gifts (see § 7.4.7). Two of those five burials, however, are oriented in an opposite direction, proving that their orientation is more likely imposed by the orientation of the terrace itself than by specific burial practices.

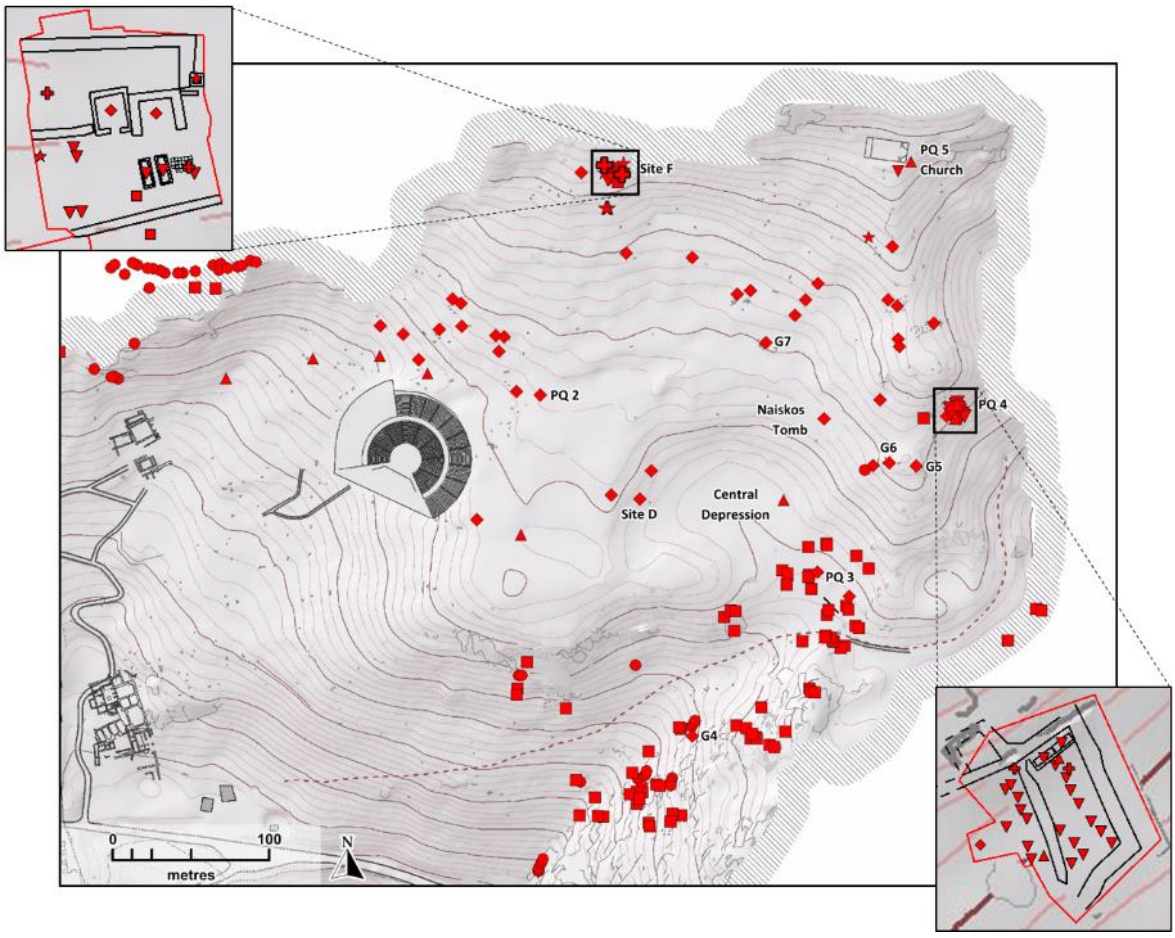


Fig. 10.4. Overview of the known or guesstimated burials and burial monuments in the Eastern Necropolis: pottery urns (stars), *osteothekoi* (triangles pointing up), cremation busta (crosses), individual inhumations (triangles pointing down), *arcosolia* (circles), *sarcophagi* (squares) and burial monuments or burial compounds (diamonds). Notice how distinguishable zones appear within the Eastern Necropolis, with the larger burial monuments occupying the central parts and the eastern ridge, *osteothekoi* around the centre and *arcosolia* and *sarcophagi* on the northern and southern slopes. For more detail, see Attachments 13-14.

[1118] Poulou-Papadimitriou *et al.* 2012, 379.

[1119] ÇO2 2011 (also referred to as KK) internal excavation report by Johan Claeys. See Claeys & Poblome 2012c for a concise (Turkish) report in the *XXXIV. Kazı Sonuçları Toplantısı*.

[1120] 2015 internal report on 'Population history' studies by Sam Cleymans and Jeroen Poblome.

[1121] 2014 and 2015 internal reports on the ERT surveys by Giovanni Leucci and Lara De Giorgi.

10.1.5 The numismatical data

Numismatics can provide an additional approach to the research of the genesis, development and decline of Sagalassos in general and the Eastern Suburbium in particular. Studies on the biases involved in the interpretation from coin finds over coin loss to coin circulation patterns – further complicated by longevity of coins during certain periods, the behaviour of coins in post-depositional processes, *etc.* – warns us not to draw hasty conclusions, however. Moreover, studies on the relationship between coins and archaeological contexts from Sagalassos[1122] as well as between those coins and the presumed contemporary ceramic assemblages show that our understanding of these relationships is open to improvement.[1123] Nevertheless, coins still have proven to be extremely valuable on a microscale – providing dating criteria to clearly defined and well documented archaeological contexts from specific time periods – and on a macroscale – the comparison of overall coin loss between different sites. We believe that also the coin finds from the Eastern Suburbium of Sagalassos offer a potential when the data are cautiously interpreted in order to answer specific research questions. On a microscale, this has been attempted for the PQ 2 site (see § 7.5.2). On a larger scale, the amount of precisely dated coins retrieved from all Eastern Suburbium sites (n=217) is sufficient to consider the *proasteion* as a separate entity that can be compared with the precisely dated coins from the rest of the site (n=2083).[1124] Since there is such a preponderance in coins dating to the 4th and 5th centuries AD (a common observation at other sites as well), a chart depiction in absolute numbers (or percentages) tends to completely obscure the possible meaningful fluctuations for other periods. The results in **Fig. 10.7** are therefore plotted according to a logarithmic scaling (in permillages, in order to make comparisons possible), which brings out the details while preserving the mutual ratios**.** While there are similar trends recognisable, some observations catch the eye:

- The share of Hellenistic coins is clearly higher for the Eastern Suburbium. This trend is reinforced when we take in account the coins that could not be precisely dated (for the Hellenistic period, this mostly applies to coins dated broadly to the 2nd-1st centuries BC): whereas the Eastern Suburbium yielded 8,9 % of the total amount of dated coins encountered at Sagalassos (including broadly dated coins: 272 on a total of 3039 coins), is total included 32,6 % of all Hellenistic coins (including broadly dated coins: 15 on a total of 46 coins). These results should be understood in the light that Hellenistic strata can more easily be reached in the *proasteion*, where there is often no monumental Roman Imperial intervention or stone floors/paving closing off older contexts. On the other hand, these Hellenistic coins are an additional clear indication for the intensity and diversity of the Hellenistic interventions, at least from Mid Hellenistic times onwards, in the Eastern Suburbium, especially since most of these coins have been encountered at sites where no permanent remains have been encountered that could be dated to this period (*i.c.* sites PQ, PQ 1, PQ 2, PQ 4 and TSN).
- The same trend holds true to a lesser extent for Early and Middle Roman Imperial coins, with a slightly more pronounced share of coins from those periods for the Eastern Suburbium, continuing until 270 AD. Maybe the relatively large share of coins originating from the PQ 2 site (64 out of 217 coins), which was abandoned around that time, can partially explain this distortion (**Fig. 10.7**).
- There is a rather sudden drop in Eastern Suburbium coin finds dating between 410 and 450 AD, a period which is generally well represented throughout Sagalasssos. This might be a meaningful observation, as it seems to coincide with other indications for a gradual abandonment of this once very densely occupied *proasteion* from Late Roman times onwards. Most of the 4th and early 5th century coins encountered in the Eastern Suburbium come from (domestic?) dump contexts postdating the abandonment of the site G complex (see § 8.5.2). Those dumps thus appear to come to a standstill, possibly to be linked with the re-introduction of agriculture at this part of the site.

[1122] Claeys 2004.
[1123] Poblome 2008a.
[1124] A previous study has demonstrated that adding the not precisely dated coins (*e.g.* 1st century BC, 4th-5th century AD, *etc.*) to the equation does not significantly alter the outcome of the graph. If anything, it only reinforces the preponderance of coins dating to the period 330-420 AD, further skewing the clarity of the graphs (Claeys 2004).

Later coin finds can mainly be linked with the newly erected PQ coroplast workshops (see § 8.3.2) and nearby dumps at the PQ 2 site (see § 7.5.2-7.5.3).

- Parallel to the previous observations, it can be noted how the 'premature' end to coin circulation (?) in the Eastern Suburbium (no coin finds from the final quarter of the 6th century AD onwards) seems to foreshadow the events in the city proper, especially since the first half of the 7th century AD is clearly represented by coin finds in the city itself. By the second half of the 6th century AD, the PQ 5 church might indeed have been the only operational structure within the *proasteion*, where it would have been dominating a landscape characterised by the partially dilapidated burial monuments of the Eastern Necropolis on the surrounding rocky slopes.

We should be careful in drawing conclusions from single graphs representing coin loss. As Peter Guest provides an example from Early Byzantine times: "*The Anastasian reforms of 498/512 significantly increased the size and value of Byzantine bronze denominations and, even though excavations tend to produce fewer sixth- than fifth-century coins, the post-498 coins represent a greater monetary value than the more numerous and much smaller earlier coins.*"[1125] This does not mean, however, that we cannot compare between contemporary sites that handled the same coin types, since they would be subject to the same biases. The numismatic evidence of Sagalassos can thus be compared on a macroscale with other sites around the Mediterranean. **Fig. 10.5** provides the framework of coin loss at 9 mainly Eastern Mediterranean sites for the period 360-700 AD. When we plot Sagalassos on the graph, we immediately notice the obvious similarities, but there might also be some significant differences in the results:

- The late 4th century is overrepresented at almost all sites (in fact, plotting these results on a logarithmic scale might have provided more detail for the subsequent periods). The Sagalassos results for the late 4th century AD are even more skewed than any other Mediterranean site. Guest distinguishes two groups in this graph, with the first group, to which also Sagalassos would obviously belong, consisting of sites where coins struck between 364 and 408 AD constitute more than half of all excavated Late Roman and Early Byzantine coinage. The preponderance of 4th century AD coins among the coin finds of many sites have been explained as the result of continued use. Guest puts it as follows: "*People dealt with the absence of new low-value bronze coinage by continuing to use fourth century coins in the fifth century, and fourth / fifth century coins into the sixth century. Thus, coins well over a century old remained in circulation and in use in marketplaces and elsewhere at this time.*"[1126]
- The results for Sagalassos throughout the subsequent 5th century AD remain relatively high in comparison with the other sites, with peaks around the same periods (430-440 AD, 460-470 AD and 490-500 AD) as most of the other sites.
- The opposite is true for the subsequent 6th century AD and first half of the 7th century AD: the results from Sagalassos remain below average throughout this period, with only marginal peaks where several other sites seem to 'thrive' in coin loss (570-580 AD and 600-620 AD).
- The second half of the 7th century is characterised by the absence of any coin finds. This, however, is not a property unique to Sagalassos. "*The recovery of sixth century coins at these cities depends to some extent on how long after 600 they continued under Byzantine control and, therefore, received and exchanged Byzantine coins. Nemea in Greece, for example, does not produce any coinage after the reign of Phocas (602–10) while the coin lists for Corinth and Jerusalem close with issues of Constans II (641–68). Sardis and Caesarea end with coins of the next emperor Constantine IV (668–85), Carthage with Justinian II (first reign 685–95)* […]".[1127] In fact, coin circulation throughout Early and Mid Byzantine times only continues virtually uninterrupted at Beirut and Athens (Agora). This implies that

[1125] Guest 2012, 112.
[1126] Guest 2012, 120.
[1127] Guest 2012, 111-112.

there is not necessarily a direct correlation between the end of coin loss at Sagalassos and the series of challenges that the city was faced with from Late Roman times onwards (see § 10.2.1).

It can be concluded that Sagalassos in many aspects fits within the coin loss patterns observed at other Mediterranean sites throughout Late Roman and Early Byzantine times. Further study is necessary to be able to interpret and fully grasp the implications of subtle differences. The results from this paragraph provide us with at least some leverage to apply to the upcoming § 10.2.

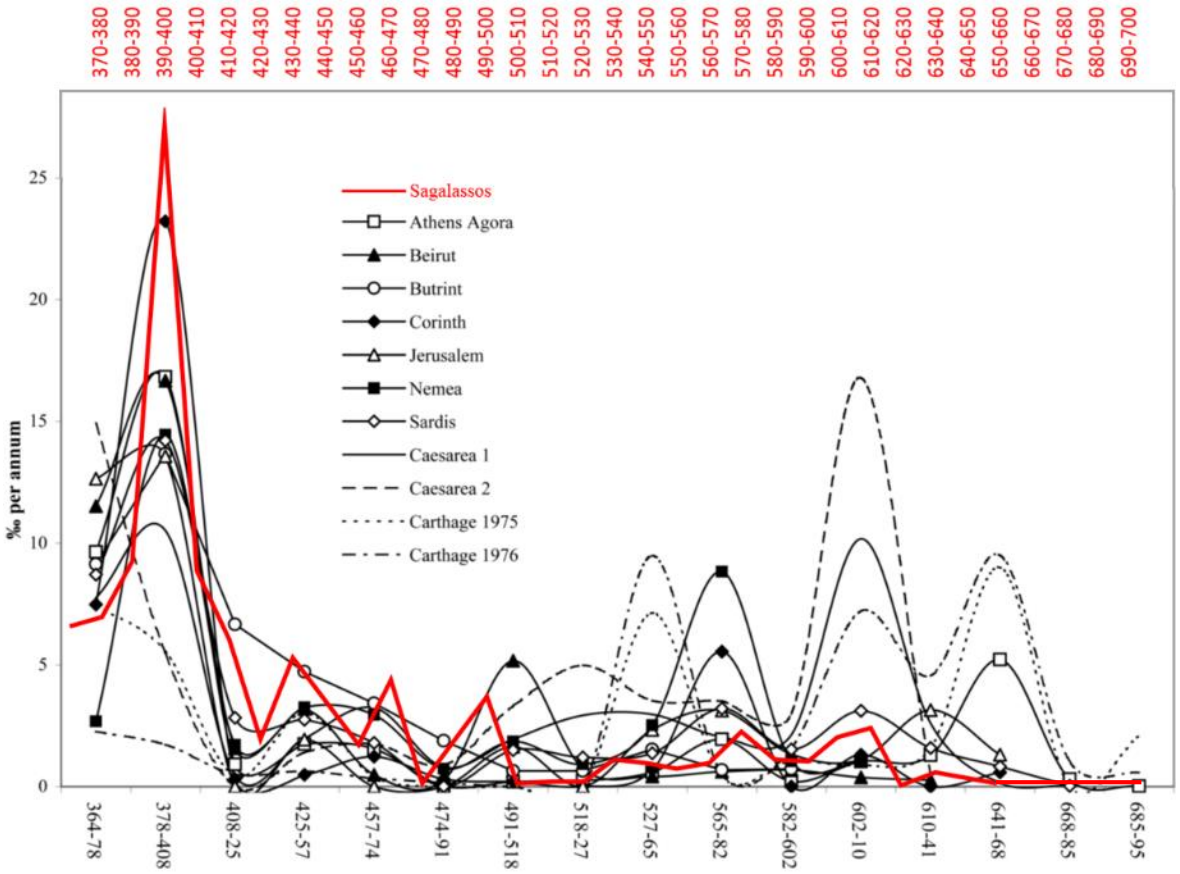


Fig. 10.5. Late Roman and Early Byzantine coin loss in Sagalassos (n=1588) compared with other sites around the (Eastern) Mediterranean. Both the graphs represent % of coin loss, in the case of Sagalassos the data are calculated per decennium (upper X-axis), in the case for the other sites per reign (lower X-axis), with the results 'smoothed out' to represent coin loss per annum (hence the Gaussian curves). The global observations, however, are comparable. Based on Guest 2012, 111 Fig. 3.

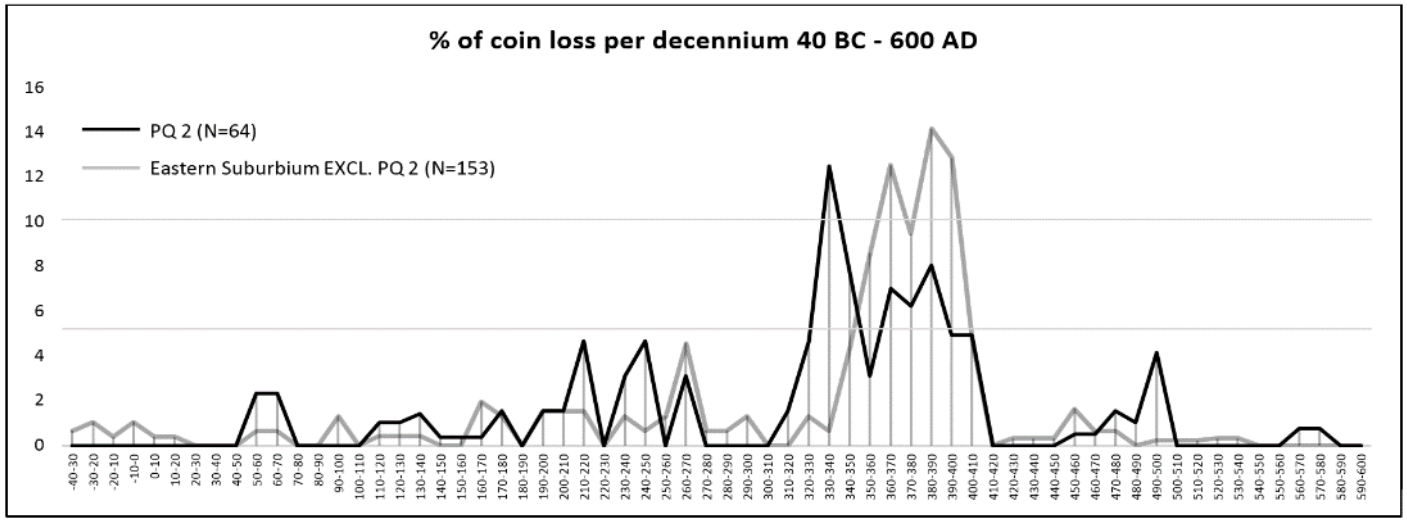


Fig. 10.6. Coin loss (in percentages per decennium) at site PQ 2 and throughout the rest of the Eastern Suburbium.

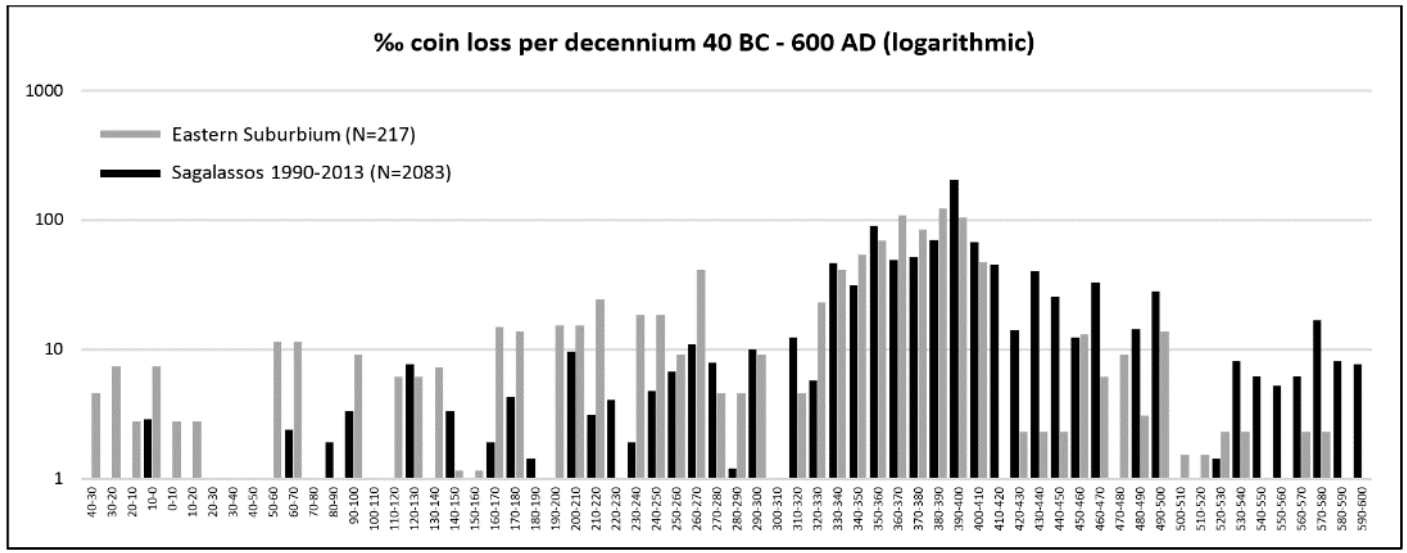


Fig. 10.7. Coin loss (in permillages per decennium on a logarithmic scale) at the Eastern Suburbium, compared to coin loss throughout the rest of the site.

10.2 Loosening or losing the boundaries city – *proasteion* – *chora*?

10.2.1 The historical setting

Both in § 3.2.3 and Ch. 9 we introduced a series of events and developments – on the regional and local scale – that would have significantly altered the town of Sagalassos and the local concept of *urbanitas*. Changes are obviously a factor (even the norm) in every time frame of a site's history, but are especially intensive when communities and societies were forced to adapt to a series of external or internal causes. The way in which a community/society copes with these causes shows the level of resilience a community/society can muster. There are various ways in which these developments can be studied; Jeroen Poblome has recently given an impetus to a new research approach by applying the Gunderson and Holling's panarchy theory, which is based on adaptive cycles of growth, stability, catastrophic shift and reorganization, to the case study of Sagalassos in Late Antiquity and (Early) Byzantine times.[1128] Poblome strongly warns against the blind application of entrenched paradigms of classical historiography, in which evolution of communities, societies and civilisations is understood as an inherent struggle towards progress. Instead he propagates the study of social complexity, which *in se* is not the end goal of social evolution, but in which change is the norm.[1129] Local and regional developments in the Eastern Mediterranean of the 5th-8th century AD have been generally labelled under the denominators 'Late Antiquity' and subsequent 'Early Medieval' and 'Dark Ages', terms which in many ways have become laden with self-fulfilling prophecies. These periods should be understood and appreciated in their own right, without weighing them against the pattern of expectations created by earlier and later periods. The so-called 'Dark Age'[1130], which in Sagalassos constitutes mainly the (second half of the) 7th and 8th century AD, forms a particularly interesting case study in this regard, since the denomination of the period inevitably biases the debate and perpetually faces the risk of circular reasoning. This paragraph is not an attempt to build upon Poblome's onset, but it will draw from its insights, since it offers the most recent views on the issues at hand. In his 2014 article he sketches the external and internal causes that (might have) affected the region from the (middle of the) 6th century AD onwards and estimates their impact on the territory of Sagalassos. The town offers a particularly interesting case study, because 'in the middle' of the already ongoing long- and medium-term historical processes that affected the wider region, the area was struck by an external catastrophe: the earthquake in the 7th century AD.

The 5th and 6th centuries AD are often named in association with episodes of turmoil and an increasing sense of insecurity as the consequence of Ostrogoth revolt around 400 AD and Isaurian raids around 404-406 AD, which would have warranted the establishment of a newly invoked military command (the *comitivae*) over Pamphylia, Pisidia and Lycaonia. The subsequent 6th century was afflicted by roaming bands of brigands, leading Justinianus in 548 AD to appoint a *praetor* over Pisidia and Lycaonia with the task to restore the peace.[1131] A possibly more major external cause that is often mentioned is the bubonic 'Plague of Justinianus' (or 'Plague of Constantinopel'), which is estimated to have reached mainland Anatolia in 542 AD, spreading along the main arteries of the road network. Whether this first outbreak also reached the territory of Sagalassos along the Via Sebaste is difficult to establish, since the ancient sources do not mention (or cover?) this area and since no plague victims have been identified (yet) in the wider area. Nevertheless, the plague was not a one-time phenomenon, but accounted for repeated outbreaks throughout the following centuries. Moreover, the recurrent plague was only one aspect of a series of external (catastrophic) causes, which included other diseases, famines and warfare.[1132] These combined factors would likely have accounted for a population decline in the affected areas, but a recent study on the demographic history of Sagalassos (based on maternal genetic variation) suggests that this was not the case in Sagalassos.[1133]

[1128] Poblome 2014.
[1129] *Ibidem*, 627-629.
[1130] Vionis *et al.* 2009; Poblome 2014.
[1131] *Novellae Iustiniani* 24.1 (Vanhaverbeke *et al.* in Waelkens *et al.* 2006, 238-240).
[1132] Belke & Mersich 1990, 67; Waelkens 1993, 49; Vanhaverbeke *et al.* 2007, 635; Poblome 2014, 630.
[1133] Ottoni *et al.* 2016.

The heavy earthquake that struck the town in the 7th century AD is the most 'readable' of the possible series of catastrophic events. The dating of this catalytic factor in the history of Sagalassos has been the topic of ongoing research. While its effects are visible throughout the whole site, it has not been an easy task to date the event. There are many contexts in Sagalassos where the post-earthquake deposits are easily distinguishable in the stratigraphy. Nevertheless, the most rigid chronological framework for dating these contexts, *i.c.* the 9 phases of the SRSW production, has been particularly tricky for its final time frame (Phase 9, see **Table B** in the General Remarks). This is an issue that transcends in other well-documented eastern pottery sequences as well and which might be understood as a 'sign of the times' for this time frame and its inherent (negative) associations. Phase 9 has in fact relatively recently been revised to cover the full 7th century AD, based on new insights and the detailed study of well-documented contexts.[1134] Numismatics have been used as a second indicator for the event, with the seemingly abrupt interruption in coin loss between 656 AD and 970 AD as a possible indicator for the 7th century earthquake. While the dating of archaeological contexts on the basis of coin finds is subjected to a series of biases for any archaeological site, the discrepancy for Sagalassos contexts has been demonstrated in many instances.[1135] The numismatic evidence, moreover, has to be understood in the wider historical process of the gradual contraction of the Byzantine Empire (mainly as a consequence of Persian and Arab conquests and Slav and Bulgar migrations into the Balkans[1136]), which would result in a much smaller circulation pattern of the Byzantine coinage (see § 10.1.5). Similar evolutions have been documented at many other sites along the (Eastern) Mediterranean (**Fig. 10.5**).[1137] While the situation for inland Pisidia or even coastal Pamphylia is not clear during these periods, it has been observed that coins from Constantinople and Thessaloniki no longer reached the southern shores of the Eastern Mediterranean. Another strong indicator that has been used to date the 7th century AD earthquake were the radiocarbon dates retrieved from owl pellets encountered in the main Frigidarium 1 of the Imperial Baths of Sagalassos. This space must have been abandoned when eagle owls nested and roosted there seasonally over several years. The regurgited remains of their prey remains were retrieved by the archaeologists at the foot of two pillars, where they had fallen on heaps of plaster that had crumbled down the walls. The dates obtained from these contexts placed their presence between 540-620 cal AD (with 95.4 % probability), with a peak around 590 AD.[1138] This has led to articles pinpointing the event of the earthquake to the period 602-620 AD.[1139] However, the main collapse of this space only occurred at a later stage. Moreover, in 2011 it was discovered that in the second and/or third quarter of the 6th century AD lime kilns were erected in the abandoned *piscina* of this *frigidarium*.[1140] This means that several large spaces of the Roman Baths (the same has been accounted for the southern sequence of *tepidarium-caldarium* of the Roman Baths) were no longer in use long before the final earthquake. We should keep in mind that there were undoubtedly a lot of relatively smaller earthquakes in the area which may or may not have left perceivable repercussions in the archaeological record.[1141] Such events can be one of the explanations for observations of damage and repair in individual cases throughout the site at various points in the town's history. Earlier studies, for example, have often mentioned a major, early 6th century AD earthquake in order to explain specific phenomena observed in individual contexts

[1134] Vionis *et al.* 2009; Poblome *et al.* 2010; Poblome & Fırat 2012.
[1135] Claeys 2004; Poblome 2008a.
[1136] Poblome 2014, 625 and 638 Table 1.
[1137] Guest 2012.
[1138] De Cupere 2009, 4 and Table 2.
[1139] Poblome 2014, 630.
[1140] Roman Baths 2011 internal excavation report by Rob Rens, of which a concise report has appeared in the *XXXIV. Kazı Sonuçları Toplantısı* (Turkish).
[1141] The Richter Scale is a base-10 logarithmic scale, meaning that an earthquake event with a magnitude 7.0 has a *shaking amplitude* 10 times that of a 6.0 earthquake, but corresponds to a *release of energy* 31.6 times higher. The latter implies that there are 31.6 magnitude 6.0 events and *c.* 1,000 magnitude 5.0 events (31,6 x 31,6) for every 7.0 earthquake, according to the power law distribution. On the other hand, the event of a 7.0 magnitude earthquake would take away a lot of the built-up stress and for some unpredictable time lower the occurrence rate of other seismic events along the same fault line. This, however, does not apply to the centuries building up towards the 7th century AD earthquake. The area is still an active seismic region; in 2014, for example, nearby Yazır (located *c.* 5 km east of Ağlasun) was the epicentre of an earthquake with an magnitude of 5.2.

at the site.[1142] The evidence for one such event has never fully materialised and we would suggest that such observations could possibly be understood as caused by smaller seismic events at various times throughout the city's history, if at all.

Finally, the ancient sources also mention the Persian and Arab raids in Anatolia during the 7th and 8th centuries AD. Once again, possible evidence for the impact of such events on the Pisidian territory is scarce, inducing Stephen Mitchell to state that Pisidia was "*almost untouched by such campaigns*".[1143] On the other hand, it is hard not to try to explain the 'Dark Age' way of life, consisting of relatively small communities with access to fortified refuge strongholds, as a necessary adaptation to (an) outside threat(s). Sagalassos itself is a case in point: the promontory south of the city centre, where the Temple dedicated to Antoninus Pius was erected, was reorganised as a *kastron* in the course of the 7th century AD. The remains of the ancient temple were subdivided into smaller living units. The promontory was closed off from the rest of the (by then at least partially ruined) city by a newly erected enclosure constructed of *spolia*. The Byzantine water channel that has been mentioned before (see § 1.2) – the source of which unknown – led through the rampart and ensured the *kastron* of a constant water supply.[1144] It is likely that there were also small hamlets of people who settled as well as possible among the remains of the city.[1145] For them, but possibly also for farms and villages in the valley below and the wider study region, the *kastron* could serve as an easily defendable fortress in times of need.

Climate change might also have played its role in the changing rural economy of the study area. Moister conditions between the late 3rd century AD and mid 7th century AD would have rendered the valley floor less suitable for intensive crop cultivation, causing a gradual trend towards livestock herding. Subsequent colder and drier conditions, resulting in an increase of dry, open steppe and maquis vegetation, seem to have reinforced this shift towards pastoralism.[1146] Probably not coincidentally, zooarchaeological research furthermore revealed the growing importance of sheep and goat in the meat component of the human diet in comparison with the preceding Late Roman period.[1147] The 2012 survey along the southern slopes of the Akdağ and Ağlasun mountains revealed several concentrations of pastoral campsites, which are in many cases still in use seasonally. Finds near those sites suggest that at least some of those might date back to Byzantine times.[1148]

All factors seem to indicate a society adapting its subsistence strategies to meet unfavourable circumstances, of which the external causes are the most visible in the archaeological record. In many ways this would result in a reduction of complexity, which is often associated with terms as 'decline', 'fall' and 'collapse', but which actually demonstrate the population's "*resilience and creativity in adapting the local social fabric to changing*

[1142] Sintubin *et al.* 2003; Similox-Tohon *et al.* 2005; Sintubin & Stewart 2008. *The Catalogue of Earthquakes for Turkey and surrounding Area* (by Ergin *et al.*, 1967) mentions two registered earthquakes in the wider area, dated resp. to 508 and 518 AD (Waelkens 1993, 49 Footnote 129).

[1143] Mitchell 2000, 142-144.

[1144] Colonnaded Street 2006-2007 internal excavation report by Ine Jacobs, of which a concise report has appeared in the *XXX. Kazı Sonuçları Toplantısı* (see also Jacobs 2012, 118; Jacobs & Waelkens 2013, 253).

[1145] A find rich context postdating the 7th century AD earthquake was excavated within Room 2 of the so-called North-East Building adjacent to the Upper Agora. An intensive study of the find material led to identify the context as "*deposits that are best explained as resulting from occupational/domestic waste disposal practices associated with a systemic occupation on premise in the multi-room unit in the (late sixth/)seventh century AD*" (Poblome *et al.* 2010, 796).

[1146] Bakker 2013, 70-73.

[1147] Fuller *et al.* 2012, 160-164. Fig. 3 shows the diachronic changes in the proportions of pig, sheep/goat, and cattle, based on faunal remains recovered during excavations at Sagalassos. In fact, the Late Roman period (*c.* 300-450 AD) is the odd one out, with a significantly higher proportion of cattle. The subsequent periods indeed show an increase in goat and sheep, but only to return to proportions known from the periods preceding Late Roman times. Fig. 4 provides a diachronic representation of land use patterns based on charred plant remains recovered by machine flotation of sediments recovered from various excavated contexts. The 'Dark Age' (7th-8th century AD) is not represented in this chart. The results for the Middle Byzantine period (*c.* 800-1200 AD) do not show a significant increase in maquis and (anthropogic) steppe in comparison with the Early Byzantine period (*c.* 450-600 AD), but do suggest an increase in open grassland and decrease in cultivated trees.

[1148] Internal Akdağ dossier, prepared by Jeroen Poblome, Ralf Vandam *et al.*

circumstances. […T]*he system did not collapse but changed."*[1149] One clear aspect of this has recently been demonstrated in an upcoming paper by Claudio Ottoni, in which the mtDNA data sets suggest that the 6th/7th century AD 'catastrophic events' might have led to a gradual and temporary decrease, but certainly not to a sudden depletion of the population.[1150] It is furthermore important to understand that these events happened in an Early Byzantine setting in which the "*praxis of* urbanitas" differed greatly from that of Imperial times.[1151]

We will further elaborate on these changes that can be witnessed throughout Sagalassos and its territory. The above-mentioned external causes were likely not the (main) instigator for many of the internal changes that were already underway from Late Roman times onwards. These internal changes, which in general can be understood as a gradual shift away from the 'ideal' Imperial urban framework, have been described as 'ruralisation' in both previous and contemporary studies on the subject.[1152] Others have found a middle ground: Luke Lavan has been using the term 'cultural relativism'[1153] to describe the 4th to the 5th-6th century AD period in Sagalassos, while Jeroen Poblome has coined the term 'de-urbanisation'[1154] to put things in perspective. For the area of Sagalassos, we can propose the following set of changes that can be observed between the Late Roman and Early Byzantine period in the territory of Sagalassos (see also § 9.4.1):

- The overall number of sites dwindles after Late Roman times, with a growing tendency towards nucleated settlements;
- The strategical location of settlements regains its former importance from the 5th century AD onwards;
- The proportion of the rural input into the economy grows, with certain activities moving to the countryside;
- Churches come to dominate focal points in the city as well as in the *suburbia* and *chora*;
- New building projects (mainly Christian architecture) depend largely on *spolia* for their construction;
- Encroachment upon public space becomes widespread, (public) buildings change purposes and are being subdivided into smaller entities;
- Artisanal activities increasingly occupy previous public and residential space withinin the urban texture;
- Waste is increasingly being dumped close to where it is generated, also within the city centre;
- Agriculture and pastoralism are practised closer to the town, manure is even collected in the Roman Baths[1155];
- Pastoralism becomes increasingly important for the subsistence economy;
- A growing share of goat/sheep can be discerned in the meat component of the human diet.[1156]

While these changes mainly apply to Late Roman and Early Byzantine times, the term 'ruralisation' has also been used for the town and *chora* of post-earthquake Sagalassos. However, while some of the above-mentioned factors hold true for 7th-8th century AD Sagalassos as well, we can observe a different set of changes that are specific for the time frame following the earthquake:

- A possible increase of (small) settlements and farmsteads in the *chora*;
- A new type of fortified nucleus emerges: the *kastron*;
- The town of Sagalassos no longer operates as a *continentia aedificia*, but as separate hamlets[1157];

[1149] Poblome 2014, 632.
[1150] Ottoni *et al.* 2016.
[1151] Poblome 2014, 630.
[1152] Waelkens *et al.* 2006, 233; Baeten *et al.* 2012.
[1153] Lavan 2003.
[1154] Poblome 2014, 630.
[1155] Baeten *et al.* 2012.
[1156] De Cupere *et al.* in press.
[1157] The City Survey project, under supervision of Femke Martens, has regularly encountered SRSW Phase 9 material (see Table A-B in General Remarks), especially in the Western Residential Quarter and west of the Colonnaded Street (Martens *et al.*

- Most of the street network is no longer in use; the existing water infrastructure is not functioning;
- Almost all structures lay (partially) in ruins and are in most cases abandoned;
- Intramural burials likely become optional (not yet confirmed for 'Dark Age' Sagalassos[1158], but a Middle Byzantine cemetery has been discovered around the Temple of Apollo Klarios – converted into a church – west of the Lower Agora[1159]);
- The production of Sagalassos Red Slip Ware comes to an end probably by the end of the 7th century AD, after which they are replaced by pattern burnished wares; pottery production appears to have completely shifted to rural sites after the abandonment of the potters' quarter around the middle of the 6th century AD;
- No evidence for coin circulation (or at least for the introduction of newly minted coins) in the region between the second half of the 7th century AD and the last quarter of the 10th century AD.

It is not within the scope of this thesis to elaborate on these observations, unless where they can be linked with the developments in the Eastern Suburbium (see further). It is often tempting to try to link the (catastrophic) external causes mentioned above with specific changes witnessed in the town and territory of Sagalassos. However, many of these developments were clearly already underway and should not only be understood as a result of outside threats, but should be understood in regard to both the wider framework of an ever evolving cultural, political and economic society, as well as in regard to region specific necessities and the resourcefulness (or lack thereof) with which the local population responds to them. General overviews and discussions on these subjects can be found in various articles[1160], of which the above-mentioned contribution by Jeroen Poblome is the most recent. For specific aspects, we like to refer to some monumental work that has been done on the evolution of the settlement patterns in the *chora* of Sagalassos by Hannelore Vanhaverbeke and Marc Waelkens[1161], on the urban development of the city throughout time by Femke Martens[1162], on the maintenance of civic space in Late Antiquity by Ine Jacobs[1163] and very recently on the rise of Christianity in Pisidia by Peter Talloen[1164] and on Byzantine Sagalassos by Jeroen Poblome, Peter Talloen and Eva Kaptijn[1165].

2012, 86 Fig. 9.2). However, since the period covered by Phase 9 initiates 1-3 generations before the 7th century AD earthquake, this means that an undeterminable amount of this Phase 9 material predates the earthquake. Moreover, the amount of surveyed squares that yielded Late Roman / Early Byzantine material as the youngest prevalent period is rougly three times higher. Since one would expect later deposits in most cases to supercede earlier deposits, even when taking in account postdepositional processes, this discrepancy cannot only be explained by research biases. It is more likely that the post-earthquake habitation in the city was irregularly dispersed, which suggests the existence of hamlets (*e.g.* around the former Doric Temple and the Apollo Klarios sites, see Poblome *et al.* in press) rather than a '*continentia aedificia*'.

[1158] According to the 2015 internal report on population history by Sam Cleymans and Jeroen Poblome, in which the find material from the 'Apollo Klarios cemetery' was reexamined, the cemetery might have come into development shortly after the 7th century AD earthquake. Nevertheless, no individual burials could be dated with certainty to this period.

[1159] Krsmanovic & Anderson's observation that "*the shift from expansive cemeteries outside settlements to intramural burial is a prominent characteristic of late-antique cities in Anatolia* […]"(2012, 70), is a view that most scholars do not seem to share. More often it is pointed out that although the East had an entrenched tradition of intramural burials granted in specific cases, the shift towards widespread intramural burial from Early Byzantine times onwards was more typical for the West (see *e.g.* Jeremy Ott's entry 'Cemeteries' in Gagarin & Fantham (eds.) 2010, 73-76). The evidence seems to suggest that intramural burials should not be regarded as a strictly Christian phenomenon, but in each individual case study should be approached in the light of local factors at play. Nevertheless, the Christian belief system did include the emanating sanctity of relics, which would be one of the important causes for the appearance of cemeteries inside and around churches, both in rural as well as in (sub)urban contexts.

[1160] Vanhaverbeke *et al.* 2004; Poblome *et al.* 2004; Waelkens *et al.* 2006; Poblome 2014.

[1161] Vanhaverbeke & Waelkens 2003.

[1162] Martens 2004 (unpublished PhD dissertation); Martens *et al.* 2008.

[1163] Jacobs 2013.

[1164] Talloen 2015.

[1165] Poblome *et al.* in press.

10.2.2 The Eastern Suburbium in Late Roman and Early Byzantine times

Many of the aspects mentioned above will also have influenced the Eastern Suburbium or, *vice versa*, will have been affected by ongoing suburban developments. We will further discuss them as we attempt to understand the final phases of the *proasteion* in the wider framework. Nonetheless, there are observations for the Late Roman and Early Byzantine period that are specific to the Eastern Suburbium:

1. No new investment in monumental funerary architecture, older tombs are being usurped;
2. The main structures within the monumental southwestern quarter are abandoned by the end of the 4th century AD, with the vacated terrain in some cases reoccupied;
3. Abandoned structures are quarried for stone (and bricks/tiles?);
4. Agricultural and pastoral activities return within the area;
5. The potters' quarter is abandoned by the middle of the 6th century AD, after which the production of the SRSW is continued elsewhere (rural production?) until the end of the 7th century AD.
6. The northern terraces are no longer maintained and become engulfed in screes before the 7th century AD earthquake;
7. No evidence for coin circulation from the final quarter of the 6th century AD onwards.
8. Construction of the PQ 5 church in the northeastern corner of the Eastern Suburbium.

Table 10.1 presents a simplified overview of the duration of different activities within the Eastern Suburbium and the lifespan of all documented features and buildings (the individual results are listed in **Attachment 22 a-e**). The arguments for the dating of each of these elements have been discussed throughout Chapters 4-9 in Part 2 of this thesis. The statements made above can be better illustrated with these tables.

1. Most of the known monumental tombs (*naiskos* tombs, *aedicula* tombs, but also the vaulted 'family tombs') were all erected in a relatively short time span, mainly covering the 2nd and first half of the 3rd century AD (see § 7.4.2-7.4.6).[1166] The same accounts for other forms of relatively ostentatious, highly visible funerary remains, *i.c.* the *sarcophagi* (see § 7.4.8) and *arcosolia* (see § 7.4.9). Many of those monuments would still dominate the vistas over the Eastern Suburbium for centuries after their construction, but there are no indications for the erection of new monuments after the second half of the 3rd century AD. One should certainly take in account the involvement of changing funerary customs and the confrontation with a fully built-up area. But one possible additional cause for this change may also be found in the gradual abandonment of the (semi-)public southwestern quarter, which would have negatively affected the attractiveness of the area for funerary display (see also § 11.1.3 and § 11.2.3). This, however, can only be tested if well documented burial monuments from the other *necropoleis* surrounding the city are brought into the equation. In at least three occasions, it has been observed how the burial monuments were reoccupied centuries later (*i.c.* in the case of the site D and site F vaulted tombs, the PQ 1 *naiskos* tomb and possibly also in the particular case of the PQ 4 burial compound). The discontinuation of events suggests that these were not original family members. Tombs appear to have been either usurped or changed ownership through legal transactions.
2. The larger structures that seem to have constituted an uninterrupted 'monumental'[1167] quarter in the southwest of the Eastern Suburbium (see § 6.5 and § 7.5) were among the first sites in the *proasteion* that

[1166] These were, however, part of much longer tradition of *aedicula* tombs, as was demonstrated by the discovery of the Π-shaped (Late) Hellenistic monument at site F (see § 5.4.4)

[1167] We use the quotation marks with the term 'monumental', because these structures should not be compared to the monumental architecture of the city centre. A lot of the monumental tombs (*e.g.* the vaulted tomb at site F, the *naiskos* tomb at site PQ 1, *etc.*) were mainly erected in unworked limestone rubble, with the use of roughly worked ashlars only at strategical locations (*e.g.* the corners). The same has been observed in the structures of the 'monumental quarter' (site G, site PQ 2 and the building southeast of the PQ coroplast workshops). On the other hand, these complete stone walls stood on high foundations, were fully mortared and often also plastered on the inside (PQ 2, building southeast of PQ) as well as on the outside (*naiskos*). In the case of the southeastern quarter, there is the additional argument of a planned layout of a

were abandoned and that were never reoccupied for their original purpose. In the case of the PQ 2 building, this was already the case at the end of the 3rd century AD (see § 7.5.2-7.5.3). The abandonment of the site G complex would follow in the next century (see § 8.5.2). Both sites were subsequently quarried for building material and served as dumping grounds for either nearby artisanal activities – especially the case for the PQ 2 site – or for a more diverse mixture of refuse (domestic waste?) – which seems to have been the case for site G. The level terrain encompassing site G would furthermore be suitable for agriculture, which would explain the erection of a series of low, dry rubble field walls across the site, following an orientation that no longer adheres the former land divisions (see § 9.2.2). We do not possess enough data on the large rectangular building southeast of the PQ coroplast workshops (see § 6.5.3.2 and § 7.5.4) in order to propose a date for its abandonment, but the geophysical survey discovered the presence of kilns reoccupying some of the eastern spaces of this building (see **Attachment 20**). These kilns clearly postdate the building's original phase of use.

3. Not only the larger structures in the southeastern quarter, but also smaller monuments throughout the Eastern Necropolis appear at some point in Late Roman or Early Byzantine times to have fallen prey to (partial) dismantling operations. This could also be documented at the PQ 1 *naiskos* tomb (see § 8.4.3), where most of the standing walls of the *cella* had been dismantled, while the podium remained intact. Similarly, the foundations of a neatly dismantled burial monument were partially exposed within one of the PQ 3 trenches. This building was mainly erected in brick, but the interior layout suggests a similar podium built-up as the PQ 1 *naiskos*. The dismantling of burial monuments that were no longer maintained might have been a much older practice in the Eastern Suburbium, as it was also observed in the case of the Hellenistic Π-shaped monument at the upper terraces of site F (see § 5.4.4). The dismantling operation at this site could not be dated with certainty. The relationship with the adjacent vaulted tomb, which abutted the Hellenistic monument's western wall and *anta*, proves that the latter still must have been standing when the vaulted tomb was constructed in the 2nd century AD. Afterwards, the western wall of the Hellenistic tomb was only taken down in as far as it would not cause damage to the vaulted tomb, while the eastern wall and *anta* were completely dismantled. The most likely destination of the *spolia* would have been the artisanal quarter, which – in contrast to the 'monumental' quarter and the *necropolis* – was fully operational throughout the 4th, 5th and first half of the 6th century AD. Since many of the 'monumental' structures mainly consisted of unworked limestone blocks, it is not easy to identify the spoliated parts in workshop walls. However, the occasional ashlar and reused column parts show that it was a common practice in the ateliers.
4. All evidence seems to suggest that the whole Eastern Suburbium was densely occupied during Roman Imperial times (see Ch. 6-7). This appears to change from Late Roman times onwards, first with the gradual abandonment of buildings in the southwestern quarter (see § 7.5 and § 8.5) and with the lack of investment in new monumental architecture. There are no indications that these vacated places became intensively reoccupied. This might be explained as a conscious choice by (the) landowner(s), but the appearance of at least two clusters of kilns within the area, most likely postdating the monumental structures, seems to undermine this hypothesis. The area rather seems to have been available or purchasable for new developments. Then, most probably in the 6th century AD, field walls are being erected throughout the vacated plots (around sites G, PQ 2 and PQ 1), with an orientation that negates earlier circulation patterns in the area. These walls were not constructed as load bearing walls, but rather seem to delineate or circumvent plots of land. The most likely reason for their construction would have been agriculture and pastoralism. This seems to be confirmed by the vegetation history of the site, which suggests that in the immediate surroundings of the city forests were being cleared and agricultural activities intensified from *c.* 400 AD onwards.[1168] This can be understood either as a result of the moister climatic conditions impeding effective use of the wetlands in the valley or as a result from outside threats compelling to keep the subsistence

series of large buildings, which appear to be conceived as part of one larger complex, thus making it stand apart from the more organically grown artisanal quarter in the heart of the *proasteion*.

[1168] Vermoere *et al.* 2002; 2003, 169-17; Bakker *et al.* 2012. Also pastoral activities would intensify from this period onwards, but those activities might initially have profited from the wetter valley floors that had become unsuitable for cultivation.

economy closer to the city.[1169] Pastoralism would become increasingly important as well, especially from the 7th century AD onwards[1170], and studies on the pollution encountered in pig and cattle bones suggests that animals were being herded closer to the city in Early Byzantine times.[1171]

5. Communal activities, that appear to have taken place mainly in the 'monumental' southwestern quarter of the Eastern Suburbium, appear to have disappeared by the second half of the 4th century AD (see § 7.5.3 and § 8.5.2). No funerary activities in the Eastern Necropolis have been attested after the 5th century AD, with the final phase of occupation of the *naiskos* tomb being the last evidence for burial in the area (apart from the single burial near the PQ 5 church, see § 9.3.2). Artisanal activities in the potters' quarter would continue until the middle of the 6th century AD (see § 8.3.3).[1172] After that the whole area appears to have mainly served for agricultural and pastoral purposes (see § 9.4.2).
6. Geomorphological studies distinguish between 'recent' and 'ancient' screes along the northern edges of the Eastern Suburbium, with at least part of the 'ancient' screes interpreted as dating to the occupational period of the suburban quarter.[1173] The final human interventions that could be witnessed on the upper terraces of site F were the individual tombs, for which the latest burial could be dated to the (middle of the) 4th century AD (see § 8.4.2). The preservation condition of the terrace walls and the stratigraphical position of the remains suggests indeed that at least parts of those terraces subsequently became covered by natural screes, some of which might predate the 7th century AD earthquake (**Fig. 10.8**). Likewise, the latest activities on the southern slopes at site F were pottery dumps dated to respectively the 3rd and 6th century AD. It is moreover possible that the 6th century AD dump have only been deposited after screes had already shifted onto (parts of) the terraces (**Figs. 5.30-5.32**).
7. While coin loss in the city centre only appears to come to a halt from the middle of the 7th century AD onwards, there is no evidence for coin circulation in the Eastern Suburbium from the final quarter of the 6th century AD onwards. This cannot only be explained by the smaller sample of (well-dated) coins available for the Eastern Suburbium (n=217, including campaign 2014).[1174] The trend seems already discernible throughout the whole 6th century AD (**Fig. 10.5**): the proportion of coin finds from the *proasteion* is consistently lower than that of the rest of the city (mainly city centre) during this period (see also § 10.1.5).
8. The erection of the Early Byzantine church at site PQ 5, overlooking the site from the northeastern corner of the *proasteion*, has been discussed in § 8.5.3 and § 9.3.2. Its construction started in the first quarter of the 6th century AD and, based on careful observations during the excavations, it could be concluded that the church was no longer in use by the time the earthquake struck the city. The church either only functioned for a very short time, or was never even fully completed by the early 7th century AD. Maybe its abandonment should be linked with the removal of the potters' quarter (see above), which might have been the original 'target audience'.

It thus appears that the abandonment of the quarter was already well under way before the event of the 7th century AD earthquake, which makes it more difficult (and less relevant) to try to distinguish changes in the area from the 7th century AD onwards. Nevertheless, there are some time-specific elements that can be listed, even though it mainly consists of non-permanent activities that are difficult to date. Some of these activities, especially agriculture and pastoralism, might have continued sporadically until (sub)recent times, as is suggested by the reoccupation of site F's vaulted tomb as a shelter, the impression of furrow marks in the vegetation growth

[1169] Poblome 2014, 632.
[1170] Degryse *et al.* 2004; Vanpoucke *et al.* 2009; Fuller *et al.* 2012; Bakker *et al.* 2013, 75-77.
[1171] Degryse *et al.* 2004, 2831-2832.
[1172] While obviously most of the potters' ateliers have not been excavated, also none of the pottery dumps encountered within the trenches and visible at the surface have yielded significant amounts of ceramic material that postdates the middle of the 6th century AD.
[1173] De Laet 2007; Mušič *et al.* 2009.
[1174] The Sagalassos excavation has produced 86 coins dateable to the 7th century AD (85 of which dateable to the first half of that century). Only 4 coins were found during surveys, 2 were encountered at the suburban Çatal Oluk church site and 3 were registered as Y-finds (without find context). The vast majority of these come from excavations in the city centre proper, evenly spread between the Upper City and Lower City, and from the Domestic Area (Urban Mansion) site.

throughout the Central Depression and the presence of various small corrals[1175] within the Eastern Suburbium (see § 9.4.2).

1. The PQ 5 church was probably abandoned in the early 7th century AD (see § 9.3.2). The waste dump and pottery concentration in the annexes to the main building suggest that the last phase of occupation was in the late 6th or early 7th century AD. Observations inside the church show that the building was already out of use and its furnishings partially dismantled when the roof, arcades and walls of the basilica collapsed. These contexts suggest that the collapse was caused by the earthquake, but the abandonment of the church might have preceded its ultimate demise. The collapse of other monuments might also be attributed to the earthquake, even though there is less evidence available. The excavated monuments were already to a large extent dismantled before the seismic event; the remains of other monumental tombs, *e.g.* along the eastern ridge, have not been excavated.
2. The quarrying of stone of extant ruins might have been ongoing, even though this activity is particularly hard to prove due to its temporary character. Evidence for quarrying of ruins has been encountered at site F, site G, site PQ 2, and site PQ 1's *naiskos* tomb, at least from the 5th century AD onwards. Quarrying might have continued with the aim to clear more terrain for agricultural purposes. It is less likely that stones from the Eastern Suburbium would have been used as *spolia*, since it appears that there were no large-scale post-earthquake interventions within the *proasteion* itself and since stone would have been easily available in other parts of the town.
3. Loose limestone rubble is being collected into piles or stacked into rows, most probably in order to clear fields (**Fig. 10.9**). This process was probably already ongoing during the period preceding the earthquake, but might have been intensified after the abandonment of the final permanent presence within the quarter (the PQ 5 church). While the Early Byzantine times still provide us with relatively clearly defined (field) walls (see § 9.2.2), there is no evidence for a clear separation between fields in later times.
4. The agricultural and pastoral efforts in the area increase and might constitute the main form of human intervention from the 7th century AD onwards. There are indeed no indications for any permanent presence within the quarter after the 6th century AD; even the PQ 5 church appears to have been abandoned before the earthquake struck the city (see § 9.3.2). There are, however, several clusters of corrals recognisable in the study area that bear witness of a pastoral campsite (see § 9.4.2). Each cluster consists of a water source, a shelter and two or three corrals. It was not possible to date these structures. They are constructed of stones that could be gathered in the immediate vicinity, which sometimes includes carved blocks from nearby funerary monuments.

[1175] Similar (clusters of) cattle pens and shelters, which are still being used, have been encountered at various locations along the slopes of the Akdağ and Ağlasun Dağları (see above). Since their construction techniques did not change significantly over the past 1,300 years, they cannot be dated based on external attributes, but the ceramic finds in their immediate surroundings suggest a Byzantine origin for many of them (see also Footnote 1148).

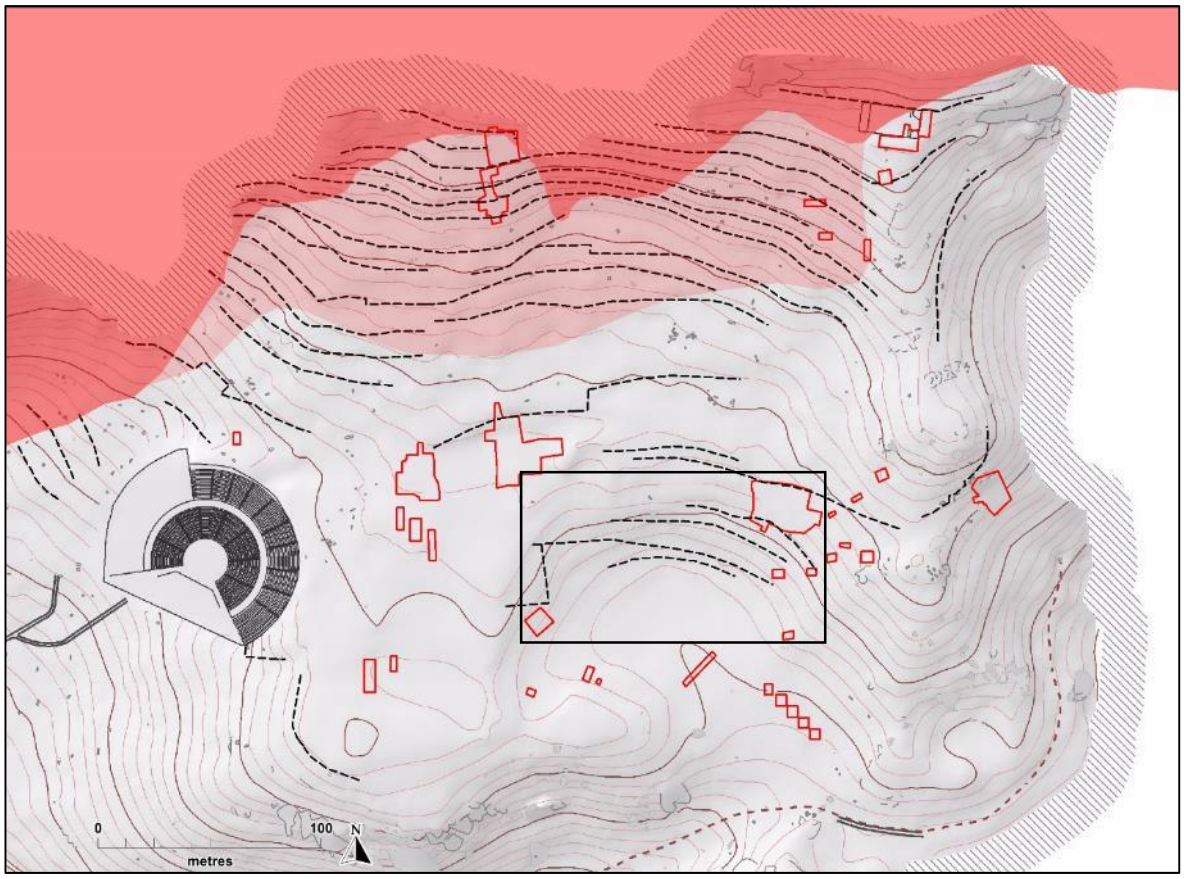


Fig. 10.8. Possible reconstruction of the terrace walls laid-out throughout the Eastern Suburbium (dashed black lines), and their relationship with shifting screes, both 'ancient' (light shaded red) and 'modern' (dark shaded red). The black rectangle shows the location of Fig. 10.9. Based on De Laet 2007 and Mušič *et al.* 2009, Fig. 8.

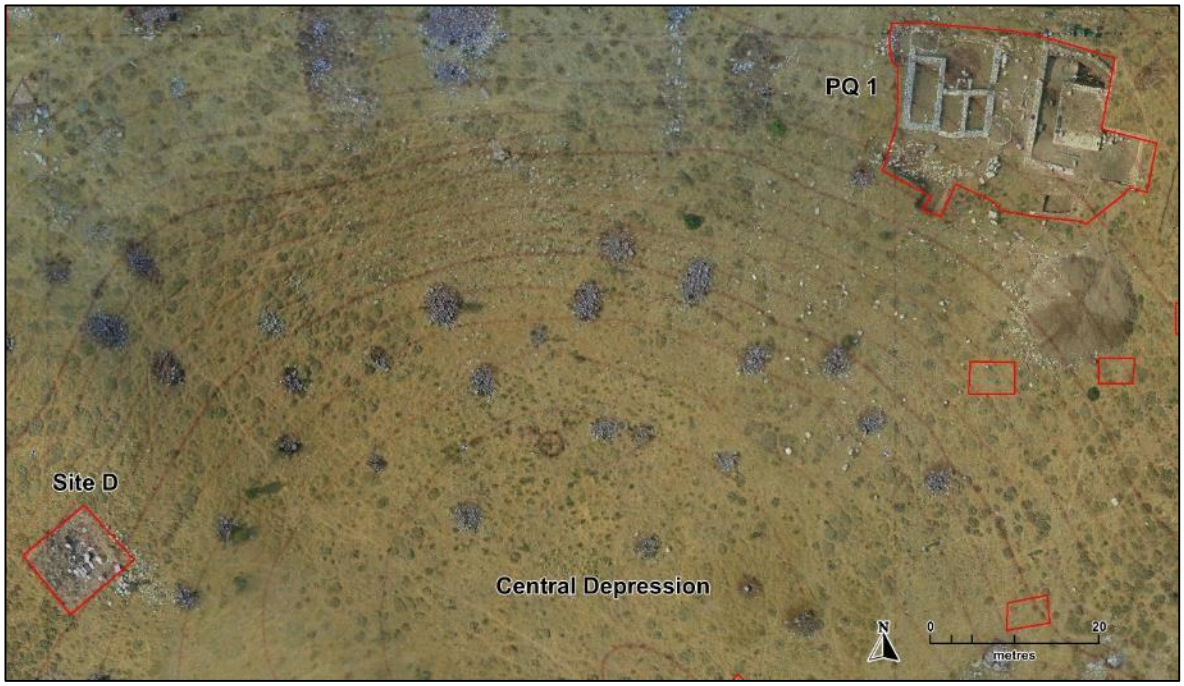


Fig. 10.9. Detail of the orthophotograph of the Eastern Suburbium, plotted on the topographical map. It clearly shows the field clearing piles in the Central Depression and along its northern slopes. At least in some cases the stones were stacked on top of the remains of extant monuments, probably since those plots would have been useless for agriculture in any case.

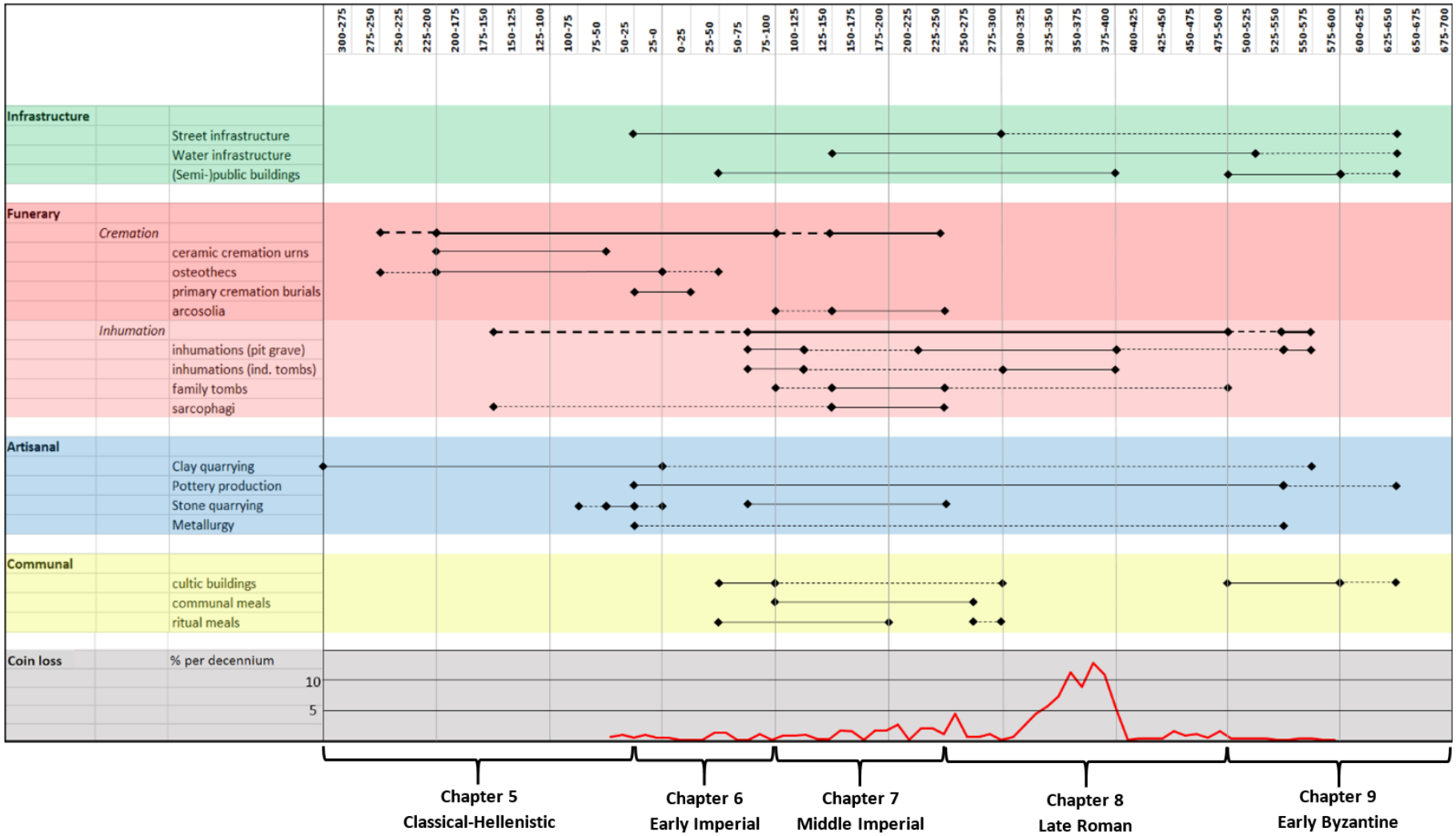


Table 10.1. Simplified diachronic overview of the lifespans of the various activities, features and buildings attested within the Eastern Suburbium (for a complete overview of the lifespan of individual activities, features and buildings, see Attachment 22 a-e; for a more detailed representation of the coin loss, see Fig. 10.6). In the case of infrastructure, not the period of construction is indicated, but the presumed time span the infrastructure was in use. Full lines indicate relative certain dates, the dotted lines a less certain, but implied or derivative reality.

10.2.3 Dissolving boundaries

An important part of the observations mentioned above, both for the territory of Sagalassos in general and the Eastern Suburbium in particular, bears witness to the gradually changing nature of the '*urbanitas*' concept between High Empire and Late Antiquity. There are various ways in which to approach these changes, one of which is by identifying the effects of these changes on the boundaries between zones that are characterised by different 'levels of urbanisation' (see § 3.3). We have mentioned above that the term 'ruralisation' has been often employed for the conceptual shift throughout these periods, but this term does not quite cover the full impact of the ongoing processes. We would rather suggest to identify the process by recognising the gradual dissolving of the traditional boundaries that existed between various zones in the ancient world. To be fair, those boundaries were never absolute, even during Roman Imperial times (see § 3.2.3), but the observed changes in Late Antiquity and Early Byzantine times resulted in transboundary movements of activities and features that would have been inconceivable in former periods.

In § 3.3 it became clear that in the ancient *polis* in general – and in Sagalassos in particular – often a more intricate framework of permeable, but mutually distinguishable zones could be distinguished than the basic city-*proasteia*-*chora*. For the case study Sagalassos, we presented those zones as follows, in 'decreasing level of urbanisation': the monumental city centre (with the Upper and Lower City), the residential quarters (with the Western and Eastern Residential Quarters), the 'periurban *proasteion*' (*proasteion* in the first acceptation, see § 1.1.1) and the *continentia aedificia*, the *necropoleis*, the 'suburban *proasteion*' (*proasteion* in the second acceptation, see § 1.1.1) and eventually the *chora* (including the arable lands of the *pedion* and the less hospitable terrains of the *eschatia* and *oros*). At Late Roman and Early Byzantine Sagalassos, we notice shifts between every 'level of urbanisation' that have been set out in § 3.3. These changes are not unidirectional, but can go either way, which is why the term 'ruralisation' is rather inept.

- **Monumental city centre**. While religious practices were never exclusive to the city centre (see for example the rock sanctuary, the Alexander Hill shrine and the possible spring sanctuary (see § 7.2.2) in the suburban areas of the city), the Early Christian approach clearly differs from these subtle examples which appear subsidiary to the surrounding nature. Early Byzantine times saw the erection of monumental churches at highly visible vantage points in the city centre (*e.g.* the Basilica church of the Upper City and the church at the site of the former Apollo Klarios Temple in the Lower City), in the periurban *proasteion* (*e.g.* the PQ 5 and Stadion churches), in the wider *suburbia* (*e.g.* Çatal Oluk) and in the *chora* of Sagalassos' territory (the field surveys supervised by Hannelore Vanhaverbeke revealed the presence of at least ten churches in the countryside, nine of which within or in the immediate vicinity of villages[1176]). Their location was more than purely symbolic, as in the case of the Basilica church, where the former Bouleuterion of the city was turned into the church's *atrium*. Pagan buildings (temples, but also the other pagan institutes, such as *gymnasia* and libraries) would be left either destroyed and/or abandoned (Neon Library) or would be partially dismantled (Temple dedicated to Antoninus Pius) or repurposed (Doric Temple assimilated into the Late Antique city wall, Apollo Klarios Temple turned into a church, *etc.*).
  Another important change is the post-earthquake shift from the walled city as primary defence level to the nucleated fortress (*kastron*) at the site of the former Temple dedicated to Antoninus Pius, which in practice is located in a suburban setting (outside the city walls and only connected with the rest of the city centre by means of a narrow – though admittedly monumental – colonnaded street). Restoring the defences around the ancient city centre must have been considered either unfeasible (too much damage, too much debris piled up along the walls) or undesirable (too large for the remaining population) in the later 7th century AD. The concept of urban defences had also changed, with the idea of the *kastron* serving as a refuge in dire

[1176] Vanhaverbeke *et al.* 2004, 254. Poblome *et al.* in press mention how eight 5th-6th century AD churches have been recorded in the city and its (immediate) periphery, four within villages and five in the immediate vicinity of presumed villages.

times, possibly as the seat of the bishopry[1177], but not as the permanent living quarter for the majority of the population. Such a shift would seem to have been compelled by the particular circumstances of post-earthquake Sagalassos, but the *kastron* is a typical Byzantine phenomenon that also characterises many other settlements in the East, with different living conditions.[1178]

We do not have conclusive evidence for the identification of an episcopal seat in Sagalassos, but it has been suggested that the Urban Mansion (see further) served in Late Antiquity as the residence of one of the *proteuontes* (aristocratic council men).[1179] Since the bishop and the *proteuontes* held the most authority in Late Antique Sagalassos, this would mean that the centre of power might have at least temporarily shifted away from the Upper City to an extramural residential area.

- **Residential quarters.** No excavations or geophysical surveys have been undertaken in the Western Residential Quarter, but we have a clearer view on the Eastern Residential Quarter. The excavations of the Urban Mansion[1180] revealed how at the latest by the second half of the 6th century AD the building had lost its previous luxurious character. Several spaces were subdivided into smaller units, rooms changed function and former luxurious infrastructure (*e.g.* the bathing section) was partially dismantled. Some representative spaces were even reformed into storage rooms, while animal throughs were introduced in one of the inner courtyards. It has been suggested that the final phase of use of this building, before its abandonment after the 7th century AD earthquake, might have been that of a *hospitium* (guesthouse).[1181]

  The excavations in the Library Area are an example of the reallocation of a former public building, by dividing the available space into smaller units for residential and artisanal purposes.[1182] The presence of a 5th century AD coroplast workshop at this location suggests that the potters' quarter by Late Roman times was no longer confined to the Eastern Suburbium. The geophysical survey of this area furthermore reveals a series of anomalies in the eastern stretches of this quarter that can possibly be identified as kilns, suggesting that the potters' quarter spilled over into the Eastern Residential Quarter.

  Surveys suggest that the 'Dark Ages' residential presence extents south of the *kastron* along the Alexander Hill, in suburban areas that were previously not used for domestic purposes.[1183]

- ***Continentia aedificia*.** The continuously built-up area of Sagalassos of Roman Imperial times seems to have been occupied until the middle of the 6th century AD, including the Eastern Suburbium. From the second half of the 6th century AD onwards, it would gradually contract (*e.g.* abandonment of the potters' quarter) and acquire a less urban character. While the process of 'decline' was already underway, the 7th century AD earthquake still appears to have caused a drastic disruption in the city texture: after the disaster the remaining urban population of Sagalassos appears to have concentrated into specific areas of the old city, such as parts of the Western Residential Quarter, the *kastron* and the areas around the former Doric Temple and around the church erected at the site of the former Apollo Klarios Temple. There is far less evidence for continuation in the Eastern Residential Quarter and in large parts of the city centre, even though there is proof for domestic presence in the so-called North-East Building (see above) and for interventions to salvage the 'Bouleuterion church'.[1184] Both the pre-earthquake street network and water infrastructure were no longer in use or no longer accessible, which would probably have contributed to the emergence of spatially separate hamlets and the disruption of the age-old *continentia aedificia*.

[1177] Poblome *et al.* in press.
[1178] Haldon 1990, esp. 459-461.
[1179] Waelkens *et al.* 2006, 231. See also Degryse *et al.* in Degryse & Waelkens (eds.), 271-272.
[1180] The excavations have been supervised by Inge Uytterhoeven and await publication (DA 1995-2013 internal excavation reports). An article on the building's mosaics has recently be published, which also contains an overview of the occupation history of the site (Uytterhoeven *et al.* 2013, esp. 374-376).
[1181] Uytterhoeven *et al.* 2013, 376.
[1182] Poblome *et al.* accepted.
[1183] Poblome *et al.* in press.
[1184] *Ibidem*.

- **Periurban *proasteion*** (*proasteion* in the first acceptation). Once agricultural and pastoral activities came to replace communal and artisanal activities within the Eastern Suburbium – a process that started in Late Roman times and that was probably completed by the second half of the 6th century AD – it is no longer possible to consider the Eastern Suburbium a part of the *continentia aedificia* or an actual *proasteion* in the first acceptation (see § 1.1.1). While the Eastern Necropolis might have been kept in use[1185] and the erection of the PQ 5 church can be understood as an indication for a continued interest into the area (see § 8.5.3 and § 9.3.2), there was no attested presence of other activities that would have made the zone distinguishable from the other *necropoleis* around Sagalassos. By the time the 7th century AD earthquake would strike the town, the Eastern Suburbium should be considered as 'suburban' only in its geographical sense.
  The abandonment of the potters' quarter does not coincide with the end of the production of SRSW, which most likely continued until the end of the 7th century AD. Most likely the production moved to the countryside, which already had a long tradition in the production of building ceramics and Fabric 4 cooking wares and *amphorae*.[1186] We can only hypothesise on the causes behind its rehousing, but we already established before (see § 6.3.1) that the choice for its location in the Eastern Suburbium in the first place – as opposed to a more customary setting near to the clay sources – could only be understood from a set of practical reasons forming an ideal alternative scenario. Once this equation no longer held true, because one or more of those reasons (water and fuel supply, adequate road network, proximity to the main markets, *etc.*) no longer applied, the choice for a relocation would be the logical next step. It would not even be a start from scratch if the production could be incorporated into already existing infrastructure elsewhere in the territory.

- ***Necropoleis***. The funerary culture of the ancient world has been subjected to several significant shifts in burial customs, which have also left their undeniable mark in the *necropoleis* of Sagalassos (see § 5.4.1 and § 7.4.1). Nevertheless, the location of this wide variety of burials – both cremations and inhumations, both simple pit burials and lavish monuments – was a constant, *i.c.* in the *necropoleis* surrounding the *polis* (and to a lesser extent at elite estates in the *chora*). As mentioned above, within the Eastern Suburbium excavation trenches we have attested (monumental) tombs being dismantled, usurped and robbed from at least Late Roman times onwards (possibly earlier in the case of the Hellenistic Π-shaped tomb at site F).
  With the advent, rise and eventual dominance of Christian burial practices in the area, however, the traditional burial grounds of the ancient world would gradually lose their appeal and significance. Monumental splendour would in most cases become subordinate to (new) location(s)[1187]: Christian cemeteries most often sprang from the newly established (martyr) churches and developed within and in the immediate vicinity of those. In Sagalassos, Early Byzantine burials have been encountered in association with suburban churches, *i.c.* the above-mentioned PQ 5 church, around the church at Çatal Oluk south of the city and probably around the Stadion church (see above). Eventually, also the taboo on burials in the urban texture would dissolve[1188], which in the case of Sagalassos is represented by the (Mid) Byzantine cemetery around the church erected at the site of the former Apollo Klarios temple.

[1185] So far only one Early Byzantine burial, adjacent to the PQ 5 church (see § 9.3.2), has been encountered within the Eastern Suburbium.

[1186] Neyt *et al.* 2012, 1297, 1304-1305; Poblome 2014, 630, 634: "*The recent discovery of seven Late Roman D production localities in the territory of ancient Pednelissos* […]*, laid out in a rural context in the foothills of the Taurus mountain range near a tributary of the Kestros river, indicates that large-scale production of tablewares was not necessarily a traditional urban focus any more* […]. *Perhaps the case of rural production workshops of Late Roman D wares near late antique Pednelissos could serve as an example for where to look* [in Sagalassos]*?*".

[1187] Poulou-Papadimitriou *et al.* 2012, 379: "*Early Byzantine tomb structures include several common types: simple single-burial tile graves in the form of a pitched tent* [the type encountered south of the Çatal Oluk church]*, more labor-intensive multiple-burial flat-roofed cists made of brick, re-used blocks, or cut out of the rock, and multiple-burial vaulted tombs, also masonry-built or rock-cut, with an entrance shaft at the east.* Amphorae *were sometimes used as burial containers for infants.*"

[1188] *Ibidem*, 388.

- **Suburban *proasteion*** (*proasteion* in the second acceptation). Relatively little is known on the settlement pattern in the suburban foothills south of Sagalassos for Late Roman and Early Byzantine times. Nevertheless, intensive field surveys led to the identification of significant quantities of contemporary surface material in these areas, most probably indicative of small-scale landholding and farming activities[1189], contrasting with the presumed abandonment of the larger suburban estates of Imperial times. There are indications that the (terraced) fields surrounding Sagalassos became more densely cultivated from the 5th century AD (among others with cereals and walnuts), which would have replaced the less dense agricultural activities (among which olive cultivation and horticulture) of previous times.[1190] A study of the cattle bones encountered in archaeological contexts from Sagalassos show an increase in copper and lead pollution in the faunal remains from the 5th century AD onwards.[1191] This can possibly indicate that the feeding area of these animals was now closer to the city, a.o. in areas that were previously reserved for funerary and artisanal activities. Both these observations have been explained as resulting from an increased feeling of insecurity.[1192] But the above-mentioned climatic changes (see § 10.3.1) might have played their role as well, because if the valley floor became too wet to be efficiently used for agriculture[1193], the subsistence strategies might have become more reliant on the higher grounds between the site and the valley floor. The wet valley floors could have increasingly served for grazing, which would explain the greater contribution of C4 plants to the diet of cattle. Alternatively, the marshy areas of the territory could have been exploited for the gathering of animal fodder, which has been attested in Central Anatolia.[1194]

- ***Chora*.** The Late Roman period represented a level of artisanal specialisation and the highest density of rural villages and estates throughout the history of Sagalassos. Subsequently, field survey results as well as ancient sources (the *Novellae Iustiniani*, see Footnote 1131) suggest that the Early Byzantine countryside of Sagalassos was characterised by a decline in rural sites, a growing proportion of villages over (elite) estates and the increased importance of strategically located sites on hill and mountain tops.[1195] Overall, Late Antiquity might actually have been a prosperous time for the countryside, since subsistence strategies appear to have turned towards a more self-sufficient economy with the villages at its core, possibly as the consequence of a disruption in the long-distance connections.[1196] The data on the 'Dark Ages' seem to suggest a further decline in the number of sites; mainly the larger villages appear to have continued into the 'Dark Ages', suggesting a certain nucleation of the population.[1197]
  Surveys have revealed the presence of a pottery production centre near Bağsaray and metallurgy at Tekeli Tepe, Köyünü and Dereköy, active in (not specified) Byzantine times. It has also been suggested before that the production centre of the SRSW would have moved to the countryside, in which case the Çanaklı valley – the source of the raw clays – would have been the most likely location for resettlement.
  The study of the changing climate conditions furthermore suggests that subsequently too wet and later too cold and arid conditions would make Late Roman, Early Byzantine and 'Dark Age' times not the most favourable periods for intensive agriculture (see § 10.2.1), which is probably one of the reasons for the increased importance of pastoralism in the subsistence economy. Especially sheep and goats became more

[1189] Poblome 2014, 631.
[1190] Vermoere 2003, 169-171.
[1191] Degryse *et al.* 2004, 2831-2832.
[1192] Vanhaverbeke *et al.* in Waelkens *et al.* 2006, 231, 237-241.
[1193] Bakker 2013, 70-73.
[1194] De Cupere *et al.* in press.
[1195] Compare Waelkens *et al.* 2006 with new insights presented in Poblome 2015, 102 and Poblome *et al.* in press. Also the retreat of the elite to the city centres has been mentioned in previous articles, where it was explained as the result of a growing feeling of insecurity from Late Roman times onwards. Such a claim, however, is difficult to attest. Some indications for elite presence, such as *sarcophagi* and monumental ashlar constructions, followed a general trend of decline from the second half of the 3rd century AD onwards, which was also valid for the city centre and *suburbia*. Moreover, the churches themselves could also be understood as (at least partially) resulting from elite funding (Poblome *et al.* in press).
[1196] On the other hand, the locally produced material culture appears to keep up with 'fashionable' changes in the wider region (Poblome 2014; Poblome *et al.* in press).
[1197] Poblome *et al.* in press; De Cupere *et al.* in press.

important again during the Early Byzantine period[1198], which would further incorporate the mountain ranges (*oros*) in the subsitence strategies.

In conclusion, we can state that 'ruralisation' is insufficient as a term when describing the complex set of events that take place during Late Antiquity. This period is actually characterised by multidirectional transgressions of activities at all above-mentioned 'levels of urbanisation': from urban to suburban and rural (*e.g.* erection of churches as the new monumental cult places, fortified zones), from urban to rural (population depletion of the city), from suburban to rural (artisanal activities moving to the countryside), from rural to suburban (agriculture and pastoralism), from suburban to urban (waste dumping, artisanal activities, elite leaving estates for mansions in the city), from rural to urban (manure stocking), *etc.* Some of these shifts cannot be fitted into the rigid mould urban-suburban-rural, such as the appearance of cemeteries concentrated around the newly erected churches, which is where we see the creation of a new zone unique to the Christianised world. While we acknowledge that the boundaries that separated the zones described above were to some extent transcendental throughout history, by the end of Late Antiquity those 'traditional' boundaries would have become all but memory.

[1198] De Cupere *et al.* in press.

From the 1960' onwards, the term '*marginal*' started to be used in French to refer to the fringes ('margins') of society and the derivative '*marginaux*' to refer to its inhabitants. Eventually, the term became synonym with 'lower class' and its associated negative connotations.[1199] It is both in its original, spatial sense as well as in the transferred provocative sense that we chose to use the word 'margin' in this title. There are more and less obvious reasons to apply this term to the ancient *suburbia*, which is where the question mark comes in.

First of all, the term is justified in its spatial definition ('situated at the edge or margin of something'), with the *suburbia* and *proasteia* occupying the proverbial fringes of the cities. Less plain to see is its use in the sense of 'minor and not important'. This, however, does not refer to the *suburbia per se*, but to the attention it has received – or rather: the lack of it – by scholars of the ancient world. As recent as 1981, classicist Gert Audring complained: "[…] *jedoch wurden Vorstädte antiker Zentren bisher nicht ausgegraben."*[1200] Neither does the study of ancient written sources, with their overrepresentation of elite lifestyle, bring any solace. When referring to *suburbia*, ancient authors predominantly envision the rural settings of lavish suburban *villae* rather than the sprawling quarters outside their own cities (nevertheless, both '*suburbia*' and '*proasteia*' are used by ancient authors to describe both concepts, see Chapter 1.1). *Suburbia* have indeed gained growing attention in the past decades, especially in the case of Rome itself[1201] and in the western provinces of the Roman Empire (see § 1.1.1). But the state of affairs for the eastern parts of the Mediterranean Basin is clearly lagging behind. The focus of the scholars is ever so slowly shifting from the history of the city itself, which was mainly fed by discoveries in the city centres, to its society and inhabitants. This type of research requires long-term interdisciplinary efforts that do not immediately bear fruit. Thus a commitment is expected both from the team of researchers as well as from the funding bodies in order to invest in a less tangible aspect of city life. In short: the *suburbia* of ancient cities have indeed long been deemed 'marginal' in the sense of 'not important' by scholars. The current thesis hopes to contribute to the emerging interest in *suburbia*/*proasteia* of ancient cities in the Mediterranean East.

While the first two definitions of the term 'marginal' can be readily attributed to the topic of ancient *suburbia*, the question mark in the title mostly befits the provocative meaning that can be associated with the phrase. In the upcoming paragraphs we will elaborate on the potentially negative and positive aspects of the ancient *suburbia*, through an attempt to reconstruct the impressions of the contemporary city dwellers. We will present the views on ancient *suburbia* in general and we will assess the case study of the Eastern Suburbium *proasteion* in particular. Were ancient *suburbia* and *proasteia* places to evade or did they draw in crowds? Were they populated by people who were shunned from the city centres or did they serve as the playground for the elite? Were the working conditions in the suburban artisanal quarters below standard or did suburban space facilitate economic growth? Were the suburban *necropoleis* places of taboo or did they serve as attraction poles for the display of wealth? The truth, as always, can probably be found at a more nuanced middle ground. In the upcoming paragraphs an attempt will be made to provide answers to the above questions.

[1199] TPE Les Marginaux - http://www.tpelesmarginaux.sitew.com. This negative connotation has also spilled over to Flemish Dutch, while it is far less common to use it in a pejorative sense in The Netherlands. This I noticed when writing the article '*Marginale archeologie?*' for the 50th issue of the Groningen-based *Tijdschrift Marginale Archeologie* (Claeys 2013). The pejorative meaning appears also to have been adopted to some extent in English, as is illustrated by Victoria Pagán's description of a garden tomb: *"A cemetery is a place for death; a garden is a place for life. Such an ambivalent setting in which the boundaries between city and country, death and life are so unstable, beckons transgression. The liminality of the garden makes it an ideal setting for such marginalized persons as witches and the impotent Priapus."* (Pagán 2006).

[1200] Audring 1981, 217.

[1201] See for example La Regina *et al.* (eds.) 2001-2008. For more examples, see § 1.1.1.

11.1 *Suburbia/proasteia* in the ancient world: issues and opportunities

11.1.1 Introduction

It appears that the pejorative connotations that even current-day *suburbia* sometimes still have to bear, should be dated back to the (Post-)Medieval sprawl of cities and its negative consequences. In Geoffrey Chaucer's famous 14th century '*Canterbury Tales*' the mood is clearly set:

"[...] *Wher dwelle ye, if it to telle be?*	"Where do you live, if you can tell so?
In the suburbes of a toun, quod he,	In the suburbs of a town, he said,
Lurkynge in hernes and in lanes blynde,	Lurking in hideouts and in blind alleys,
Where as thise robbours and thise theves by kynde	Where robbers and thieves by trade,
Holden hir pryvee fereful residence,	Fearfully seek refuge,
As they that dar nat shewen hir presence.	As they do not dare to show their presence.
So faren we if I shal seye the sothe. [...]"	That's how we fare, to tell you the truth."[1202]

From the text it appears as if Chaucer's audience must have shared a similar aversion towards suburbs in order to understand the obvious bad connotations in the colourful picture he is painting here. These views of *suburbia* as 'dangerous' and 'filthy' city quarters live on today and to some extent influence modern scholars in their research on the *suburbia* and *proasteia* of the ancient world as well. The situation might not have been entirely anachronistic; also in Antiquity the urban sprawl would entail that the *suburbia* became the sump for activities that would wash up from the city centres for a variety of reasons.[1203] These could be of a practical nature, such as space limitations (*e.g.* for large spectacle buildings as *stadia* and (amphi)theatres), economic reasons (*e.g.* cheaper land prices), but in some cases also religious or moral taboos would have played their part (*e.g.* funerary activities or executions[1204]), while the practical effect of governmental decrees on safety and health measurements (*e.g.* with regards to funerary pyres or artisanal kilns) is debatable.[1205]

Through 1st-2nd century AD authors such as Marcus Valerius Martialis[1206] and Gaius Suetonius Tranquillus[1207], we know that the *suburbia* (in the first acceptation of the term, see § 1.1) in ancient times were infamous as hotbeds for beggars[1208], thieves, prostitutes and homeless, who would seek shelter in any type of suitable space, not in the least in the abandoned or unguarded 'eternal houses' of the dead.[1209] It should thus not come as a surprise that citizens of means would put aside a fund specifically to ensure the surveillance of their tombs after they

[1202] Translation by author, based on Couch *et al.* 2007, 9.

[1203] Patterson 2000, 102: (on the periphery of Rome): "*The periphery of the city was especially characterized by activities that were for various legal, social and political reasons banished from the urban centre*"; (on *suburbia* in general): "*Noxious and hazardous activities, damaging to the health of the citizens or endangering their safety, might be excluded from the built-up area, and the way in which these were defined reflected the priorities of the Roman authorities.*"

[1204] Bodel 2000, 144-145; Witcher 2005, 120-121. Executioners , for example, would have been unwelcome in the city centres, bearing a status of both "*physically abhorrent and religiously dangerous*", since they were "*inevitably affected with the pollution of his victim*" (Bodel 2000, 144-145). Undertakers and funeral directors were unpopular as well, but they had a more ambiguous status (Bodel 2000, 135-144).

[1205] Witcher 2005, 120-123; Goodman 2007, 17-18; Buzón Alarcón 2011, 36-38.

[1206] Martialis *Epigrams*, 1.34.8 (in a satyrical poem, addressed to a certain Lesbia): "[...] *Even the dirtiest of whores takes cover in a tomb* [...]" (translation by Jacob Horn on classicalanthology.theclassicslibrary.com). See also Martialis *Epigrams*, 3.93.15 (Hope 2007, 169).

[1207] Suetonius *Nero*, 38.2 (in relation to the Great Fire of Rome in 64 AD): "[...] *For six days and seven nights destruction raged, while the people were driven for shelter to monuments and tombs.* [...]" (*Loeb Classical Library* 1914 translation, as reproduced on penelope.uchicago.edu). Compare with *Digesta*, 47.12.3 (*De sepulchro violato*), describing how homeless set up establishments in tombs (Hope 2000, 125), which also might have served as improvised lavatories and brothels (Scobie 1986, 402-403 Footnotes 26-28).

[1208] Parkins & Pomeroy 2007, 206: "*The indigent might need to look for market scraps or even funerary offerings (hence the association of beggars with graveyards, which might also offer temporary shelter).*"

[1209] Whittaker 1992, 349; Lafon 2001, 206.

passed away.[1210] Moreover, where the *necropoleis* were interspersed with artisanal activities, other negative effects would come into play as well: the smoke from kilns, pollution from hazardous substances used in certain artisanal processes, *etc.* Finally, the suburbs were also the first-choice areas for garbage dumping, with all the associated nuisance.

It needs to be stated that some of these issues are also valid for the ancient city centres themselves. Fire hazards would be imminent in any densely built-up area (and remain to be so throughout history). Likewise, high population densities combined with limited hygienic amenities could easily provide a perfect storm scenario for the outbreak of diseases, most probably even more so in the residential areas than in the artisanal quarters. It should also not come as a surprise that nuisances and disruptions were not unique to suburban contexts, but would have played a big part (a bigger part?) in the living conditions of the city centres as well. Therefore we also need to discuss the advantageous aspects of suburban environments, as we will see that the *suburbia*/*proasteia* provide opportunities unique to its urbanistic characteristics: opportunities associated with relaxation and display, opportunities arising from the availability of space and economic opportunities.

The concept '*suburbanus'*, according to Nicholas Purcell, "*was above all a conception of the elegant life of the urban periphery, to which death and the world of the tomb were far from central."*[1211] This, however, is referring to the second acceptation of the term *suburbium*/*proasteion*: the one associated with the elite suburban *villae*[1212] and their associated virtues of *salubritas, otium et amoenitas*[1213] mentioned in § 1.1.1. These virtues cannot be translated one-to-one to the realities of the densely built-up suburban zones immediately adjacent to the city centre, where the *necropoleis* overlap with the urban sprawl. This also implies that, specifically for these paragraphs, a lot of studies on ancient *suburbia* are less relevant or irrelevant, because they describe the 'rural' *suburbium*. Admittedly, in many instances it is not possible to draw a clear line between *suburbia* in the first and second acceptations of the term; we should rather envisage a gradual continuum between the different suburban zones (see also § 3.2). Nevertheless, we will attempt to 'separate the wheat from the chaff' in both ancient references and modern studies regarding the issues and opportunities inherent to *suburbia*.

[1210] Purcell 1987, 25, 41.
[1211] Purcell 1987a, 26.
[1212] Buzón Alarcón 2011, 18-19, 42.
[1213] Adams 2012, 178-184; Champlin 1982, 99-100; Esmonde Cleary 1987, 173; Morley 1996, 84 map 2 and 91; Witcher 2005, 122; Goodman 2007, 58-59.

11.1.2 Issues

Waste management

Waste generated in the city centre as well as in the suburb itself would accumulate in any available place inside, but mainly outside the city walls.[1214] The principle 'the path of least resistance' would certainly have applied, meaning that waste would not be brought any further away from the city – if brought away at all – than strictly necessary. When Allison Emmerson, who worked many years on the *necropoleis* of Pompeii, recently published her views on waste management in that city (**Fig. 11.2**), it came as a shock to many scholars that a highly civilized town such as 1st century AD Pompeii would allow the unbridled accumulation of waste in very conspicuous locations within the city and especially the suburbs. Previously, it was argued that the omnipresence of garbage – dumped in abandoned plots, on street corners, in blind alleys, *etc.* – originated during a period of neglect in the aftermath of a 62 AD earthquake (preceding the 79 AD Vesuvius eruption), but recent scholarship on the last years of Pompeii has undermined the idea of decline and instead shows a picture of a city in a period of revival: *"Rather than* necro*poleis in neglect, Pompeii's tombs were centers of mixed activity, not least of which was continued funerary ritual up to the moment of the eruption."*[1215] For the contemporary inhabitants of the ancient world, the sight of waste dumps would have been as common as the presence of tombs during their strolls through the suburbs. The presence of garbage in burial plots does not even have to signify the abandonment of the precinct; it rather reflects the contemporary attitudes towards both refuse and funerary space. *"Tombs in active commemorative use, although considered sacred to the spirits of the dead, were also a part of the dynamic zone of the* suburbium*. As such, they were suitable for posting official notices, scratching [salacious] graffiti, engaging in disreputable behavior, and even dumping garbage."*[1216]

This was not necessarily a general attitude of ancient societies. The problem of waste management became a real issue once the first organized communities emerged from the hunter-gatherer lifestyle and began to congregate in settled communities. Efficient waste management and drainage systems have been encountered as early as 2,500 BC in the village of Mohenjo-Daro in the Indus River Valley. Archaeological research has also encountered drains, cesspools and sewage systems throughout a variety of cultures, including ancient China, India, Pakistan, Babylon, Assyria, Greece, Mesopotamia, Israel, Egypt, Crete, Carthage in the millennia preceding our era. In many cases, however, this infrastructure was a privilege preserved for the elite contexts of the cities and towns. The management of solid waste disposal, on a more general scale, was in many cases driven by either religious or social conventions. The Jewish sanitary laws, for example, stated that every Jew had to remove his own waste and bury it far from the living quarters, while the Talmud even ordered the streets of Jerusalem to be washed on a daily basis.[1217]

[1214] Esmonde-Cleary 1987, 179; Witcher 2005, 120; Emmerson 2012.
[1215] Emmerson 2012. Theodore Peña discusses similar behavior in residential contexts, a.o. the Villa Regina near Pompeii (2007, 306-317).
[1216] Emmerson 2012.
[1217] Melosi 2005, 2-4.

Fig. 11.1. View from the northwest on the Valley of Hinnom (Gehenna), the mythical (?) landfill area of ancient Jerusalem. To the left are the slopes of Mount Zion. From Bailey 1986, 187.

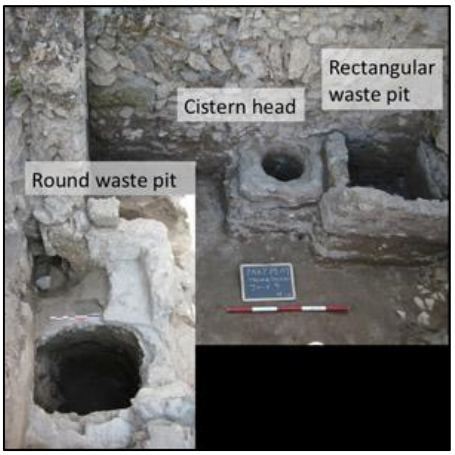


Fig. 11.2. Composite picture of a cistern in a Pompeii house, set between waste pits. From Emmerson 2012.

Nevertheless, these idealistic concepts were apparently anything but prevalent or could not be consequently sustained once cities grew bigger, became more densely populated and the garbage-invoked problems multiplied. Around 500 BC, Athens was the first city in the western world to forbid waste dumping within a mile from the city[1218], by investing in large municipal landfills further away.[1219] While the mile radius would mean that large parts of the *proasteia* seem to have been protected by law as well, one should keep in mind that in many cases these cities might still grow beyond their contemporary urban limits, eventually resulting in the inevitable incorporation of waste dumping sites into the city texture (*e.g.* Monte Testaccio in Rome). An edict of 320 BC, which forbade the practice of waste dumping in the city streets, furthermore showed that bad habits died hard.[1220] Indeed, Lewis Mumford goes as far as calling Athens "*a deplorably backward municipality*" regarding its policies towards waste management. This harsh condemnation is of course uttered from a modern point of view on waste disposal, and it needs to be reminded that as recently as the 19th century AD people did not grasp the relationships between good sanitation and germ-spread diseases. They did, on the other hand, believe that there were links between 'bad water' (rightfully so), 'bad air' (*miasma*) and health issues (see further). By 300 BC a system appears to have evolved throughout the Greek-dominated cities of the Eastern Mediterranean, where the municipal *astynomoi* would be in charge of the upkeep of the public places outside the *agora*, the expenses of which were covered by taxing the landowners.[1221]

These sanitary concerns were passed on from the Greeks to the Romans, whose organization of the collection of solid waste and infrastructure in water supply and drainage would be the most developed prior to the 19th century. Roman law states that landowners were responsible for cleaning the streets fronting their property[1222],

[1218] Aristotle *Athenaion politeia*, 50.2: "*And they* [the Restorers of Temples] *keep watch to prevent any scavenger from depositing ordure within a mile and a quarter of the wall; and they prevent the construction of buildings encroaching on and balconies overhanging the roads, of overhead conduits with an overflow into the road, and of windows opening outward on to the road; and they remove for burial the bodies of persons who die on the roads, having public slaves for this service.*" (translation by H. Rackham, 1952, Perseus Digital Library).

[1219] The modern definitions for 'landfills' and 'dumps' cannot be applied to ancient contexts. A modern 'landfill', for example, technically requires to comply with a set of strict regulations concerning the manner of collecting, compacting, draining and monitoring the waste dump. Used in an ancient context, we still wish to distinguish between 'regular dumps' and 'landfills', by implying the former to be generated by individuals on private land and the latter to consist of larger-scale dumping grounds run by the municipality or the community. In Jewish traditions the Valley of Hinnom (Gehenna, **Fig. 11.1**), immediately outside of Jerusalem, was – according to as yet unsubstantiated sources – used as a large landfill site where fires perpetually burned to deal with the constant supply of rubbish and cadavers. Because of the fires, and possibly because of its likewise mythical association with children sacrifices, the word 'Gehenna' became a metonym for 'hell' (Bailey 1986; Barbalace 2003).

[1220] Barbalace 2003; Melosi 2005, 4.

[1221] Savas & Baumol 1977, 13.

[1222] Scobie 1986, 418.

the more affluent citizens could employ slaves to dispose of waste and independent scavengers collected garbage and excrement to be resold as fertilizer. But municipally organized waste collection was associated only with state-sponsored events such as parades and gladiatorial games.[1223] The Romans thus still faced insurmountable problems because of the unprecedented scale in which cities accumulated waste on a daily basis. This would become foremost evident in the megacity of Rome itself, where the capacity of the available waste removal systems would remain inadequate, resulting in Rome becoming a chronically unhealthy city.[1224]

Problems created by poor waste management were not unique to the *suburbia*, but since there were no (strict) laws forbidding the practice of rubbish refusal outside the cities, the problems would tend to aggravate in these *suburbia*, since their proximity would make them the choice location for waste dumps. Even if the ancient Greeks and Romans did not recognize a direct link between open dumps of decaying refuse and health issues, the associated nuisances (malodours, vermin, loss of serviceable land…) would have been all too obvious to everyone. These problems would accumulate with the other above-mentioned aspects unique to life in the *suburbia*, *i.e.* the urban periphery as a hotspot for taboo, obnoxious or outright dangerous activities.

Health

People inhabiting the Ancient World obviously did not possess current insights into the causes of disease and they did not share our modern concept of public health. Urban pollution *was* in fact recognised in antiquity, as narrated to us by contemporary medical writers, but the causes were mostly simplified to the intake of a poor diet, impure water or especially 'bad air' (*miasma*).[1225] Even though these observations were at least partially relevant, ancient doctors focused on an unilateral view of causation, for example the individual's interaction with the surrounding air. Also their proposed solutions were in many cases less beatific: in the end, ancient physicians appeared to concur, the body can get accustomed to any environment, as long as it enjoyed an appropriate *diaita* (lifestyle).[1226] Doctors in ancient times were, however, in general not in a position of authority and they had little influence on a decision-making level, since questions of health, sewerage, aqueducts, waste management, *etc.* were dealt with on a state or local political level.[1227]

Urban life was one of the bad environments. Aulus Cornelius Celsus, a medical encyclopaedist from the 1st century AD, recognised how town-dwellers were likely to die sooner than those in the countryside. Also Aelius (or Claudius) Galenus of Pergamon, one of the "*most acute of all ancient observers*" compared "*the fat fish that can be caught in the sparkling Nar, one of the upper tributaries of the Tiber, with the scrawny and smelly offerings that are found in the river once it has received the foetid outpourings of the city of Rome.* […] *No wonder that fish in the Roman market are sold off cheap.*" Galenus must have recognised the relation between the outpourings from sewers, carrying away the scourings from baths, markets, living quarters *etc.*, and its capacity to pollute by the 'bad air' that accompanied the outpour.[1228] The association between the quality of water and the health of people was already made by philosopher and medical theorist Alcmaeon of Croton in the 5th century BC. The quality of the water was generally examined by the senses: taste, smell, appearance and temperature.[1229] These resulted in a rather reasonable aversion for marshes, stagnant pools and slow-moving rivers and a preference for cool, odourless and either tasty or tasteless water. For example the 1st century AD architect/engineer Marcus Vitruvius Pollio instructs how swampy areas should be avoided when the site of a city is chosen, and how water

[1223] Melosi 2005, 4; Nathanson 2014.
[1224] Savas & Baumol 1977, 13-14.
[1225] Caroline Magdalaine gives an overview of the views of ancient Greek authors on the relation between waste disposal and public health in her paper for the 2002 colloquium *La Ville et ses déchets dans le monde romain*, which was published in the following year: "[…] *ils ont pris conscience de l'existence d'un lien étroit entre les déchets, leur putréfaction, les égouts, et la santé de la population, lien qu'ils expliquent par le truchement de l'air et de l'eau, microbes et bactéries leur étant inconnus.*" (Magdalaine 2003, 34).
[1226] Nutton 2000, 65-66, 70-72.
[1227] Nutton 2000, 71-72.
[1228] *Ibidem*, 66: based on Galenus *De alimentorum facultatibus*, 3: 30: 6.722-3 K and Galenus *De cibis boni et mali*, 9: 6.795 K.
[1229] Juuti *et al.* 2007, 93-96.

coming from mined hills and mountains should be heeded.[1230] First century BC poet and philosopher Lucretius Carus, for example, left little to the imagination in his description of the gold mines near Neapolis: "*Have you not seen or heard how speedily men die and how their vital forces fail when they are driven by dire necessity to endure such work? All these vapours, then, are given off by the earth and blown out into the open, into the unconfined spaces of the air.*"[1231] Xenophon described the silver mines at Laureion (Attica) as "*an unhealthy district by all accounts*"[1232], according to Alison Burford not necessarily because of the vapours from the earth itself (see Lucretius above), but because of the polluting fumes from the smelting furnaces.[1233]

These ideas were upheld until the end of Antiquity, as expressed by the writings from 5th century AD Rutilius Taurus Aemilianus Palladius and 7th century AD Paulus Aegineta.[1234] Their solutions were either to use settling tanks, sieves and filters or to boil the water in order to purify it. Even though the boiling of water might have been helpful from a hygienic point of view, the practice was in general not fully employed because of the scarce access to combustibles.[1235] In the end, despite the infrastructural prowess of the Greeks and Romans in transporting drinkable water into the urban centres, it did not prevent the populace from suffering from severe outbreaks of diseases related to polluted water. Water-borne infections (dysentery, several types of diarrhoeas, *etc.*) must have been among the main causes of death.[1236]

City life was not only associated with polluted water, but also with unhealthy air. Oribasius, a fellow townsman of Galenus writing in the 4th century AD, recalls an observation by Sabinus (a teacher of Galenus) in which he compares "*the fresh air at dawn with that later in the day, when it has become altered by the smoke, the smells, the dust, and the other effusions and odours of the city.*" Sabinus would amplify on the advantages of a south-facing, sunlit house and of a city with straight roads leading in from the suburbs, in order to swipe away the smoke and fumes.[1237]

It is further clear that inadequate waste disposal was a very high risk for food and water contamination. Open cesspits in kitchens, a lack of latrines and washing facilities, the pollution of water sources, the impossibility to control flies and vermin, *etc.* all help to explain a very high mortality rate and consequently a short average life expectancy for people living in the overcrowded conditions of ancient urban centres. The most common diseases that can be associated with pollution by faecal matters are "*cholera, dysentery, gastroentreritis, infectious hepatitis, leptospirosis, and typhoid*"[1238], many of which could be lethal without proper treatment. Animals such as dogs, rats, vultures, flies, ticks, lice and fleas would – given the right climatic conditions – in many cases be the medium through which disease would spread.[1239] This might have been at least partially acknowledged by ancient authors, who noted, for example, how a fly is born "*as a maggot from the dead bodies of men or animals",* while living *"in the society of man, on the same food and at the same table* […]."[1240] Nevertheless, despite the obvious aversion that was held towards scavenging animals, their real threat as propagators of deadly disease was not understood. Corpses, on the other hand, were widely believed to cause disease.[1241] As a consequence,

[1230] Nutton 2000, 67: based a.o. on Vitruvius *De architectura*, 1.4 . See also Borca 2000, 74-84.
[1231] Lucretius Carus *De rerum natura*, 6.75-76 (translation by R. E. Latham, 1951, Lund University Publications).
[1232] Xenophon *Memorabilia*, 3.6.12 (translation by H. G. Dakyns, 2008, The Project Gutenberg EBook 1177).
[1233] Burford 1972, 75.
[1234] These ideas were upheld until the end of antiquity as expressed by the writings from 5th century AD Rutilius Taurus Aemilianus Palladius (*Opus Agriculturae*, 1.4) and 7th century AD Paulus Aegineta (*De re medica libri septem*, 1.50). Palladius, for example, defines the "*wholesomeness of the water*" as follows: "*First, it should not be drawn from pools or marshes, it should not originate in mines, it should be translucent and not spoilt by any flavour or odour, and no silt should settle in it.*" (translation by Fitch 2013, 36).
[1235] Vuorinen 2007; Juuti *et al.* 2007.
[1236] Nutton 2005, 26.
[1237] *Ibidem*, 67: based a.o. on Oribasius *Collectiones medicae*, 9.15-20.
[1238] More diseases are listed by Alex Scobie, all of which were known to the inhabitants of the Ancient World (Scobie 1986, 421-422 esp. Footnote 169).
[1239] Lilja 1976. However, it was the raven – considered in Antiquity as an evil omen – that received the worst press in ancient Greek literature (Lilja 1976, 66-68).
[1240] Lucianus *Muscae Laudatio*, 5: 'The Fly' (translation by A.M. Harmon, 1913, The Loeb Classical Library).
[1241] Marshall 2000, 8.

inhabitants of the Ancient World would probably have considered the built-up *suburbia* as unhealthy, not in the first place because these contained so many pest-infected waste heaps, but because of their overlap with the *necropoleis*.

'Bad air', 'bad water' and the unbridled spread of disease were issues that would not have been exclusive to the *suburbia* of ancient cities, but the combination of large-scale rubbish dumps (see above) and a concentration of artisanal activities (see below) in the urban margins would by all means have had a negative influence on the quality of water, soil and air in the immediate environment. In the end, inadequate sanitation must have been one of the chief factors for the above-mentioned observation that city dwellers lived shorter lives than their contemporary rural counterparts. Overcrowding, shortcomings in housing, fallacies in legal matters, *etc.* would be complementary factors that would create ideal situations for disease to spread.

Fears

The ancient *necropoleis* were intrinsically linked with the *suburbia* of ancient towns (**Fig. 11.3**). Despite their omnipresence in the lives and minds of the people, these 'cities of the dead' would always have been veiled in an unearthly and foreboding atmosphere, mainly based on the idea that the dead were still present.[1242] Michael Scott, in his recent book '*Space and Society in the Greek and Roman Worlds*' starts off by defining *necropoleis* as marginal in its spatial sense, when he states that "necro*poleis existed, after all, also within liminal, dubious, physical locations stretching away from cities through the suburbs and countryside.*"[1243] He continues by denoting their character as *marginal* in the negative sense described above: "*They were physically dangerous places, where you could be robbed or killed. They reminded you threateningly of your mortality. They were places that, thanks to their overwhelming sense of death and foreboding, may have undermined your desire to undertake military service and civic duties. These were clearly not, thus, always welcoming places, even for Romans.*"[1244] Likewise, the ancient Greeks "*marginalised death from their cities*" because it was believed to cause religious pollution.[1245] Valerie Hope, in her book *Roman Death*, stresses the differences between the town and its suburbs, with the latter lacking the real hubbub of the centre "*especially after dark*."[1246] Apart from being a hideout for "*tramps, thieves and prostitutes*", the *necropolis* was also regarded as a superstitious, ill-omened place, with 1st century AD Gaius Petronius Arbiter painting a picture of the *necropoleis* as the perfect setting for a werewolf transformation[1247] and with the contemporary poet Marcus Annaeus Lucanus describing how the witch Erictho seized corpses from the cemeteries.[1248] While monumental tombs would have seized the attention and admiration of the passer-by, most deceased would have had to cope with more simple burials. The corpses of the completely destitute, who could not even rely on the involvement of a *collegium funeraticum* (funerary

[1242] Hope 2000, 122.

[1243] Scott 2013, 108.

[1244] Scott 2013, 108-109.

[1245] Kurtz & Boardman 1971, 69-70. Eireann Marshall, referring a.o. to the Cathartic Law of Cyrene (*Supplementum Epigraphicum Graecum*, 9.72), uses intramural hero burials in Cyrene (*Provincia Cyrenaica*) as evidence to show that Cyrenaeans "*did not associate death with disease in the same way as do contemporary scholars*" (Marshall 2000, esp. 9). Intramural burials in so-called *heroa* (which did not necessarily contain the actual body of the deceased) are also common in Greek and Roman Imperial Anatolia (Henry (ed.) 2011). We believe that the exception granted to local city founders, rulers, benefactors and heroes does not preclude that common burials were in fact regarded as health risks. While it is true that pollution might have been understood in a ritual-religious or even methaphorical sense by contemporaries, this was also the case for hygiene, for plagues, for draughts, *etc.* In the end, pollution still constituted a risk for one's health, whether this was transmitted directly by the impurity of the dead body or by divine intervention.

[1246] Hope 2009, 175-176. See also Hope 2000, 122-123: "*The dead were removed from the living; they occupied their own settlement beyond the walls of the town. In many ways the cemetery was a* marginal [stress by author] *space: at the edges of life, concerns and activities.*" However, she nuances this point of view when stating that the "*suburb, including the tombs, was in many respects an extension of the town rather than separate from it.*" In any case, the inevitable interaction between this 'settlement of the dead' and activities of the living (industry, associative events, *etc.*) should thus be regarded rather as an infringement of the living into the space of death than the other way around.

[1247] Petronius *Satyricon*, 62.

[1248] Lucanus *De bello civili*, 6. See also Horatius *Satire,* 1.8 in which he describes witches who trespass in the Gardens of Maecenas to perform their unholy rituals and who thereby desecrate religious space.

association), would sometimes even be dumped among the waste.[1249] There were indeed laws to prevent this practice, but the alternative offered little solace: 1st century BC author Quintus Horatius Flaccus tells us about whitening bones laying on the ground surface at the pauper's burial ground at the Esquiline[1250] and Martialis paints a picture of a dying beggar dreading the predatory postmortem attacks of dogs and birds.[1251] The *necropoleis* would also be the location where corpse abuse and/or mutilation would be seen as a proper punishment for sins committed during life or as a necessary measurement protecting the living from the 'restless dead' (see also § 6.4.1).[1252] Anastasia Tsaliki duly remarks how the fear for ghosts, witches, demons, the undead and revenants is shared by many both past and contemporary societies. Her introductory contribution *Unsual Burials and Necrophobia* to Eileen Murphy's *Deviant Burial in the archaeological Record* continues by providing an overview of ancient authors that made common references to these themes.[1253]

Tombs were regarded as sacred, inviolable spaces, but even though acts such as despoiling, removing or scattering a corpse were punishable by death[1254], interference with graves and tombs was a very common practice. These interferences could be justified by law (*e.g.* when land properties could be disputed), could be attempted with semi-legal status (*e.g.* to suit the needs of changing times and changing generations) or could be completely illegal (*e.g.* raiding of tombs). There are many inscriptions preserved that call for fines or that curse the perpetrators, indicating that the problem was real. It would indeed have been hard to protect a tomb after nightfall; richer citizens would sometimes even make provisions in their will in order for someone to guard their tombs. But even in these extreme cases, it is hard to imagine that these measures would have been honoured for a very long time.[1255]

Not only the presence of a neighbouring *necropolis*, but also the use of fire in the kiln-related crafts appear to have caused anxiety among the workmen. Apart from the dangers that the fires might have posed to the craftsmen themselves, the inexpert mastering of the fire in the kilns would lead to damage or loss of the products inside. The workers apparently resorted to magic to ward off any evil influences (among which colourful demons and goblins), for example by putting up apotropaic signs in the form of grotesque masks and other flamboyant depictions.[1256] Apotropaic qualities were for example attributed to Dionysos, Hermes, silenes and satyrs (**Fig. 11.4**). John Papadopoulos further recognises the close relationship between the underworld, represented by tombs, and the artisanal quarter in the case of Athens' Kerameikos district: "*Potters, curses, and death thus share a physical proximity to one another.*"[1257]

[1249] Hope 2000, 110-112; John Bodel mentions how the 2nd-3rd century AD jurist Aemilius Papinianus, when describing the upkeep of cities, treats the disposal of human corpses in town streets on the same level as other prohibited acts such as the abandonment of cadavers, the dumping of dung and brawling (Bodel 2000, 134).

[1250] Horatius *Satires*, 1.8.8-22.

[1251] Martialis *Epigrams*, 10.5.9-12. John Bodel (2000, 129) accounts that "*such fears would not have been unfounded*", as wolves allegedly dragged a half-eaten corpse into the Forum in 276 BC (Orosius *Historiae Adversus Paganos*, 7.4.1-2), Vespasianus was once startled during diner by a dog dropping a human hand below his table (Suetonius *Vespasianus*, 5.5) and Cicero accused Sextus Clodius of casting the dead body of Publius Clodius into the street, where it was left to be torn apart by dogs (Cicero *Pro Milone*, 33). Alex Scobie points out that the practice of disposing of dead bodies in the streets was not limited to Rome, but was also recounted by ancient authors from Athens (Aristotle *Athenaion politeia*, 50.2; see also Footnote 1218) and Antioch (Scobie 1986, 418-419, Footnote 146). More direct evidence has also been encountered in Roman-British cemeteries a Cirencester, where half of the examined skeletons had been gnawed at by dogs (McWhirr *et al.* 1982, 194 ff *non vidi*).

[1252] Hope 2000, 112-115.

[1253] Tsaliki 2008, esp. 3-6.

[1254] Hope 2000, 122-125: based a.o. on *Digesta*, 47.12.3.7 and 47.12.11.

[1255] Hope 2000, 124-125.

[1256] Burford 1972, 122, Plates 17 & 32, Footnote 324. As examples he describes the scene of the potters' workshop and the graffito in the workshop of Pheidias at Olympia. Likewise, the 2nd century AD Greek scholar Julius Pollux (Ioulios Poludeukes) is quoted to have written "*It was the custom for bronze casters to hang something ridiculous in front of their furnaces, or to mould something upon them, in order to avert envy. These were called* βασχανια." (Pollux *Onomasticon*, 7.108; translation by G.M.A. Richter 1923).

[1257] Papadopoulos 2003, 191-196 (quote from 196).

Fig. 11.3. View on a *Gräberstrasse* (a major traffic axis lined with tombs) outside the Nucerian Gate at Pompeii. From Scott 2013, 108 Fig. 3.10.

Fig. 11.4. Shoulder detail of an Athenian black-figured *hydria*, depicting pottery workshop scenes. A workman is raking out the kiln, under the auspices of a bearded mask (Dionysos?) attached to the upper part of the kiln. On exhibition in the *Staatliche Antikensammlungen und Glyptothek* in Munich, inv. 1717 (J. 731). Image from the Art Institute Chicago (www.artic.edu).

Nuisances and disruptions

There were also (semi-)public buildings that were confined to the outskirts of the cities, partially because of their size (spectacle buildings, livestock markets, *etc.*), but also because they could be associated with various forms of obvious inconveniences. Also the *collegia* (associations) and their *scholae* were in many cases located in the *suburbia* (see § 6.5.2 and § 7.5.1-7.5.3), for which the reasons might vary from a harsher competition for space in the city centre, over the vicinity of the *necropoleis* (many *collegia* also functioned as burial clubs) to the undesired nature of some of their activities. Communal banquets, in most cases involving the consumption of wine, took up an important part of the events calendars of the *collegia* and brawling apparently must have been a common occurrence during these convivial events.[1258] The boisterous behaviour of *collegia* could result in these "*riotous and unlawful assemblies*"[1259] to be (temporarily) dissolved and/or banned by edict as *collegia illicita*.[1260]

[1258] Van Nijf 1997, 18-19; Dunbabin & Slater 2011, 462; Smith 2003, 97: "*To many of the Roman moralists, the clubs were nothing more than groups of disorderlies and drunks.*" This would apparently be a continuous lamentation, as the criticism of the early Church Fathers on the *collegia* was centered on the riotousness and drunkenness of their banquets (Liu 2005, 285, Footnote 30).

[1259] Toner 2009, 107-108.

[1260] Smith 2003, 97.

Governments initially even tried to discourage the formation of *collegia*, because they feared that their activities would surpass the strictly religious-cultic-convivial level and that they could grow into well-organized supporter gangs (creating riots), trade unions (causing strikes, illegally fixing prices) or political factions (endangering the power status quo).[1261]

Also the associations themselves imposed strict rules upon their members, in order to keep the peace during their monthly feasts: political or work-related issues were to be avoided at all costs[1262] and there were strict rules of conduct regarding how and when fellow members could be addressed during the meetings. The perpetrators could be fined or – in the worst-case scenario – expelled from the *collegium.*[1263] The mere existence of these intricate frameworks of rules and fines shows that brawls were more than likely a common phenomenon that had to be dealt with. All in all, "*the* convivia *of the associations, whether of religious groups or tradesmen and merchants, appear to have preserved more of the dangerously free spirit of democratic banter than would have been tolerable among the Roman elite, especially under the empire."*[1264] The *scholae*, and metonymously also the *suburbia*, would thus have been regarded not only as hotbeds for boisterous behaviour, but – at least by the people in power – also as a potential breeding ground for subversive ideas and illegal gangs, even if most cases would never pose any realistic threats.

Noises and smells would have been major nuisances associated with several crafts. They would not only have had a wearing effect on the workers themselves, but they would have been annoying enough for the town's residents to give rise to several documented cases in which noise and/or smell was referred to as the main reason to expel crafts from the city centre, as for example in the case of the city of Sybaris (in southern Italy's Magna Graecia). The 2nd century AD diviner Artemidoros Daldianos from Ephesos describes how the tanner was forced to live "*far from town*" because "*his stench reveals his presence, even when he is hiding*".[1265] There are examples of tanneries being located in the heart of cities, as was the case in some of the *demes* of Athens, but in Rome the tanneries were isolated on the west bank of the Tiber.[1266] Smells could also have played its part in the localisation of other banausic crafts, such as textile manufacturing (with its noxious dyeing and fulling processes). It indeed appears that some reeking activities (*e.g.* fulling) were intentionally located on the margins of the city, but this practice was certainly less strictly followed up.[1267]

[1261] Valerie Hope (2009, 88) describes how already in 450 BC, in the *Law of the Twelve Tables*, measurements were proposed to constrain those debaucheries. Several edicts are also known from Imperial times (among others issued by Trajan and Marcus Aurelius) that either (temporarily) forbade the formation of *collegia* or that imposed strict rules and limitations to their organization. Communal activities were in many cases restricted to once a month or even once every two months, even though their situation in the Roman East might have been a bit more prosperous (Arnaoutoglou 2002, 31-33).

[1262] Dunbabin & Slater 2011, 462.

[1263] Smith 2003, 97-102, 119-123; Toner 2009, 108. One of the best preserved *collegium* statutes, from the Society of Diana and Antinous at Italian Lanuvium and dated to 136 AD, included: "*If any member moves about from one seat to another simply to cause a disturbance he shall be fined four sesterces. If any member speaks abusively to another or becomes obstreperous he shall be fined twelve sesterces. If any member is insolent to the club president he shall be fined twenty sesterces.*"

[1264] Peachin 2011, 462-463.

[1265] Artemidoros *Oneirokritos*, 1.51; 2.20. In these particular passages of his *Interpretation of Dreams*, Artemidoros explains how vultures are good omens not only for tanners, but also for undertakers and potters, since all of them "*live away from the city and because they handle corpses*" (translation by R.J. White, 1975).

[1266] Burford 1972, 77-82.

[1267] Patterson 2000, 93.

Dangers

A very real danger, however, came from many of the workshops. It is not a coincidence that artisanal activities involving the use of hearths/fires/kilns were in many cases confined to (or even prescribed to[1268]) the margins of the built-up urban areas.[1269] It is debatable whether this was the result of practical considerations, or whether legal decrees could have played their role, not unlike the prohibition on the erection of funeral pyres within half a mile (or two miles in the case of Rome) of the cities.[1270] The artisanal activities that were specifically mentioned in these rulings were tile factories. The text has also been interpreted as including pottery production[1271], but Vasilis G. Tsiolis stresses that the formula '*figlinas teglarias*' can only be understood as installations for brick/tile production.[1272] The archaeological observations demonstrate that at least larger clusters of kilns were in most cases located in the periphery of the built-up area, often near the city walls (*intra muros* and *extra muros*) and opposite from the prevailing winds, probably in order to diminish the risk for fire outbreaks.[1273] This entailed that many of these activities would end up in the immediate margins of the towns and cities, where they were still close enough to the market they catered for. This, however, makes that sites for manufacturing would in many cases poach on the same territory as the *praediola* (small estates catering for the city's populace), tombs, (exotic) cult spaces, rubbish dumps and several public and communal buildings.[1274] This could eventually lead to an overcrowding of the urban fringes and a competition for space not unlike the city centre itself, which would result in the *suburbia* to become parts of the built-up areas of cities (*continentia aedificia*), while still being considered periphery and not part of the *pomerium* (see Ch. 3).

The expulsion of artisanal activities out of the city centres would not eradicate fire hazards. The risk of conflagrations in the *suburbia* would increase, while fires would still remain the major safety issue in the centres as well, eventually leading up to the creation of the *vigiles urbani* in Rome during the reign of Augustus. The first and foremost task of the *vigiles* would have been to fight fires, but their activities also required patrolling the streets after dark – exercising an effective repellent against nightly crimes – which would turn the *vigiles* increasingly into a law enforcement unit. Other cities would probably have followed Rome's example on a proportionately smaller scale.[1275]

[1268] Marie-Christine Hellmann refers to the architectural treaty by the 6th century AD Julian of Ascalon from Palestina (see Hakim 2001 for a more detailed presentaion of this treaty), in which he prescribes to maintain certain safety distances between different types of activties within cities and villages. It is likely that his views are based on older Roman judicial texts (Hellmann 2014, 161). Marina Castoldi states that, in the Greek World, artisanal furnaces and kilns are normally relegated to the periphery of the city because of the high fire risks involved. Nevertheless, she immediately follows up with providing a few exceptions that came to light in a.o. Syracuse and Megara Hyblaea (Castoldi 2000, 29).

[1269] See a.o. Goodman 2007 for examples of artisanal siting within the urban texture for Roman cities in the West. Darcque *et al.* (eds.) 2014, 157-221 for examples from the Greek East and Castoldi 2000, 29-33 for examples from the *apoikìa* (Greek colonies) in Sicilia.

[1270] As mentioned in the Urso Charter (*Lex Coloniae Genetivae Iuliae*, ch. 76). The reason for the expulsion of tile production from the city is not mentioned. However, following the same argumentation as with cremation pyres (cf. *Lex Coloniae Genetivae Iuliae*, ch. 73-74), fire hazard was most probably the main reason (Patterson 2000, 92-93; Goodman 2007, 17). Nevertheless, it is not certain to what extent these restrictions were observed. Burial compounds just outside the city walls of Pompeii contained their own *ustrinae* (places where the funeral pyres would be erected) lined with heat-resistant bricks (Bodel 2000, 133). Similarly, workshops have been discovered within city walls, as is demonstrated for Roman Gaul by Penelope Goodman (a.o. in Augustodunum (Autun) and Forum Iulii (Fréjus), see Goodman 2007, esp. 97 Figure 4.7, 110 Fig. 4.13) and for Roman Britain by Simon Esmonde Cleary (1987).

[1271] Translations differ in the sense that they either only mention 'tile works' (*e.g.* Crawford (ed.) 1996, no. 25, 393-454, esp. 424) or include 'pottery works' as well (*e.g.* de Berlanga 1876, 14, 110-114; Johnson *et al.* 1961, no. 114, 97-104).

[1272] Tsiolis 1997, 120-121. This is confirmed by Katelijn Vandorpe (professor Ancient History at the University of Leuven).

[1273] See for example the part on *Périurbain et artisanat* in Darcque *et al.* (eds.) 2014, including articles by Hellmann, Sanidas, Dupont and Esposito. See also Tréziny 2012, esp. 39-40.

[1274] Witcher 2005, 120-123; Goodman 2007, 17; Buzón Alarcón 2011, 36-38.

[1275] Sablayrolles 1996.

11.1.3 Opportunities

A *locus amoenus* (pleasant place)[1276]

There are ancient references to the aesthetic qualities of some of the *proasteia* in the immediate surroundings of Athens and other Greek cities. Thucydides, writing in the 5th century BC, refers to the Athenian suburb containing the Akademía (the Platonian *gymnasion*) and the Demósion Sema (the public cemetery) as the most beautiful *proasteion* of the city[1277] (a reference which also implies that not all parts of suburban Athens were as aesthetically pleasing). From Pausanias[1278] and Plutarchus[1279] we learn that the Craneion *proasteion* (containing the eponymous *gymnasion*) at Corinth contained a pleasant grove of cypresses and was considered as a sophisticated location for living. We get a different view from the sophist Alciphron, who probably lived in the 2nd-4th century AD, as he describes how he saw young men scavenging around the bread and fruit stands at Craneion in the hope to find some trampled food remains.[1280]

According to Nicholas Purcell, the *gymnasia* at Athens – *i.c.* the Akademía-Academy, Lykeion-Lyceum, Kinosarges-Cynosarges, *etc.* – would serve as models for similar prestigious suburban projects in newly established Greek cities. These suburbs would contain groves, spectacle buildings and cultic infrastructure and would serve as the setting for relaxation and recreation at times of festivals. Such developments were not limited to the Greek World. During the reign of Augustus the Campus Martius of Rome, which was at that time still located outside the *pomerium*, was transformed into a *proasteion* in the same trend as the Greek examples mentioned above. The *c.* 2 km² large and mainly unoccupied area was furnished with groves of trees, impressive monuments (*e.g.* the Horologium), sport facilities, cult places, *three* theatres, Rome's first permanent amphitheatre and of course Augustus' own Mausoleum. As is the case for other important *suburbia* and *proasteia*[1281], the Campus Martius was located along some of the major thoroughfares into the city (the Via Flaminia and the Tiber), taking full advantage from its prominent location to dazzle passers-by. One of those early visitors was Strabo[1282], who left us a vivid description.[1283] Most of the other extramural developments around Rome consisted of simple dwellings, ateliers and smallholder's *praediola* and *horti*, but also of 'resorts' built by the elite, in their attempt to escape the constrictions, noise and heat of the city centre.[1284] Vitruvius even provides us with prescriptions for the layout of these magnificent complexes, which should contain a variety of amenities and buildings as splendid as the ones intended for public use.[1285] Once again, however, it is obvious that these estates must have been erected in relatively unoccupied territory, steering clear of the *continentia aedificia* that characterises most

[1276] Quote from Brundrett 2011, 63.

[1277] Thucydides *Historía toû Peloponnêsiakoû polémou* ('*History of the Peloponnesian war*'), 2.34.5: "*Then they put them into a public monument which standeth in the fairest suburbs of the city, in which place they have ever interred all that died in the wars* […]." (translation by Thomas Hobbes, 1843, Perseus Digital Library).

[1278] Pausanias Description of Greece, 2.2.4: "*As one goes up to Corinth are tombs, and by the gate is buried Diogenes of Sinope* [the 'cynic' philosopher], *whom the Greeks surname The Dog. Before the city is a grove of cypresses called Craneum* [Craneion]. *Here are a precinct of Bellerophontes, a temple of Aphrodite Melaenis and the grave of Lais, upon which is set a lioness holding a ram in her fore-paws.*" (translation by W.H.S. Jones and H.A. Ormerod, 1918, Perseus Digital Library).

[1279] Plutarchus *Life of Alexander*, 14 mentions how Diogenes of Sinope enjoyed his leisure in the Craneion suburb. From Plutarchus *Moralia*, 601B it furthermore becomes clear that the Craneion was a "*fashionable dwelling-place*" (Purcell 1987a, 26 Footnote 7). The name 'Craneion' also refers to the *gymnasion* on the same grounds.

[1280] Alciphron *Epistles*, 3.60: "*With their eyes bent upon the ground, one picked up beanpods, another carefully examined nutshells, to see if any of the kernel had been left in them accidentally, while another peeled off with his nails pomegranate-skins* […]*, to see if he could lay hands on any of the seeds; while others picked up pieces of bread, which had fallen on the ground and been trodden underfoot, and greedily gulped them down. Such is the entrance to Peloponnesus.*"

[1281] *E.g.* the Sacred Road leading to the Dipylon Gate in the case of Athens' Akademía; the road coming in from Corinth's main harbour Cenchreae in the case of the Craneion, *etc.*

[1282] See Strabo *Geographika*, 5.3.8 for his admiring account of the Campus Martius, to which Rome seemed like a "*mere accessory*".

[1283] Purcell 1987a, 26-27; Goodman 2007, 48-49.

[1284] The suburban palaces of the wealthy were referred to, ironically, as '*horti*' (vegetable gardens) as well (Purcell 1987a, 30; Purcell 1987c).

[1285] Vitruvius *De Architectura*, 6.5.2.

of the immediate development outside the city centres. If at some point these estates became engulfed in suburban sprawl, they would no longer serve their original purpose as tranquil refuges.

The *necropoleis* of the ancient city could in fact attribute to this sense of *gravitas*, monumentality and even pleasantness, as majestic tombs and funerary gardens would often occupy the most visually attractive plots of land along the major streets (and rivers) leading into the towns. This yearning of the tomb's occupants to be noticed and acknowledged would underlie the development of *Gräberstrassen* (tomb-lined streets)[1286] and the erection of lavish monuments at prominent singled-out locations. Some of the most well-known examples of such displays of self-advertisement in the West are known from Pompeii (**Fig. 11.3**) and Rome (**Fig. 11.5**). The most impressive example in the East might have been provided by Alexandria, where a sense of safety and security allowed for an atypical large-scale development of *proasteia* east and west of the city. Strabo passingly mentions the many gardens and burial places in the so-called Necropolis *proasteion*.[1287] Archaeological research has since revealed a mingling of residential and funerary structures, the latter of which were sometimes equipped with funerary dining rooms and surrounded by both productive and ornamental funerary gardens.[1288] This garden culture has been called a typical Roman Imperial phenomenon, but it is more proper to recognise the elite ideology of the Hellenistic suburbs as the basis for the later arrangements witnessed in the Roman *necropoleis*.[1289] While the "*Athenian houses presented a blank, fortress-like facade to the outside world*"[1290], the Greeks certainly tried to develop leisure grounds (*gymnasia*, funerary gardens, *etc.*) as close to the city as possible. However, the overall observation remains that the *amoenitas* often associated with suburban life was inherently linked with rural qualities, which would be difficult to encounter in the *continentia aedificia*.

Fig. 11.5. Monumental tombs lined along the Via Appia. John Linton Chapman's *The Appian Way*, 1869; painting on display at the Brooklyn Museum, New York.

Availability of space and lower land prices

A second aspect in which the ancient *suburbia* would seem to have a head start on urban centres was the relative abundance of available space and its subsequent effect on land (and rental) prices. However, the situation is not as straightforward. Extramural land was not automatically at the disposal of urban development. Many cities, including Rome until deep in Roman Imperial times, were depending on the produce from the "*market-gardens and cereal-fields* [that] *came right up to the walls*"[1291] and these lands could not easily be replaced by building projects. When furthermore considering the competition for space between artisanal activities, funerary exposure and spectacle buildings – which all profited from ease of access along the major thoroughfares – it should come as no surprise that both Lucius Columella (1st century AD Roman writer on agriculture) and Seneca the Elder (1st century BC – 1st century AD Roman rhetorician) refer to land prices in the vicinity of Rome as

[1286] See von Hesberg & Zanker 1987 (ed.) for a collection of articles on the subject.
[1287] Strabo *Geographika*, 17.1.10.
[1288] See for example Empereur & Nenna 2001 and 2003 for the publication of the Gabbari Necropolis, which was discovered by chance during road works in 1997.
[1289] Campbell 2008, 35-37; Brundrett 2011, 53-54.
[1290] Giesecke 2007, xii.
[1291] Purcell 1987a, 29.

'expensive'. [1292] Pliny the Elder, on the other hand, mentions the 'well-known cheapness' of the suburban land around Rome.[1293] We do not possess a detailed contemporary framework with which we can compare land prices throughout the Roman World – which appear to have been fluctuating in the best of times – but it is likely that each of these statements makes sense in reference to specific land prices elsewhere. Columella and Seneca, for example, may compare the land prices around Rome with rural land or suburban land elsewhere, while Pliny's intention might have been to contrast suburban prices with the land prices in Rome itself.[1294] Indeed, it is obvious that the ancient city centres would deal with a magnification of this competition for space and with subsequent higher land (and rental) prices. This might have caused an exodus of people of small means to the urban periphery, either for living or for economic activities. The development of suburban artisanal quarters, consisting of infrastructure for retail, storage and production, could thus also have been determined by free market economics, rather than by legislative orders (see § 1.1.2).[1295]

Suburban development could evolve in both ways, even within one and the same city, as Goodman recently demonstrated for Timgad (Mauretania). The southwestern *suburbium* of Timgad would boast a temple, a market and the city's Capitolium, attracting elite housing in the form of *atrium-peristylium domi*. The northeastern suburban development, on the other hand, apparently lacked proper water supply and appears to have mainly consisted of small housing units and workshops. It is therefore justified to assume that the land value in the southwestern *suburbium* would have been much higher than in its northeastern counterpart.[1296] This implies that proximity to the city centre was certainly not the only driving factor behind land value; also other inherent factors, such as accessibility, geographical qualities, historical connotations, *etc.* would have played their role, as well as deliberate urbanistic choices. It is moreover likely that the competition for space in a suburban context would result in a high difference in land prices between plots of land immediately adjacent to the main thoroughfares and land only accessible through back alleys. While the effect on accessibility might have been insignificant, the latter would often lack the opportunity for display. It is probably not a coincidence that we still have standing remains of *Gräberstrasse*n (**Fig. 11.3** and **Fig. 11.5**), with tombs built for eternity, but are depending on excavations in order to study the more ephemeral infrastructure in the built-up zones behind.[1297]

We already mentioned that the wealthy as well could wash up in the *suburbia*, not because they were economically forced out of the city centres, but because they wished to enjoy 'rural qualities' close to the city. This, however, would mostly externalise in the development of elite estates in a wider radius around the city, where they would not necessarily compete with the *necropoleis* and artisanal activities (see above). A third type of buildings that would specifically suffer from space constraints in the city centres are the largest (public) building projects, such as spectacle buildings (*stadia* and (amphi)theatres) and other amenities intended to draw large crowds or in need of lots of space (*gymnasia*, baths, markets, *etc.*). In these cases, suburban development would not only be induced by the relatively larger availability of space, but to a certain extent also by the avoidance of nuisances for the city centre itself and – in the case of amphitheatres – possibly the taboo on death and violence associated with gladiatorial games. With this in mind, it is maybe surprising to notice that a systematic study by Edmond Frézouls[1298] on the siting of theatres and amphitheatres in North-Italian towns revealed that 80 % of theatres and 65 % of amphitheatres were erected in town centres. Penelope Goodman detects a strong willingness among urban communities and their local *euergetai* to overcome practical and financial problems in order to keep these status symbols in the centres. "*Nonetheless,*" she continues, *"where public monuments were constructed in the urban periphery, they were often built in locations which ensured*

[1292] Columella *Res rustica*, 3.9.2; Seneca *Epistles*, 87.7.
[1293] Pliny the Elder *Naturalis historia*, 14.50: "*The low price of property through all the districts just outside the city [of Rome] in every direction is notorious* […]" (translation by H. Rackman, 1938, Loeb Classical Library).
[1294] Duncan-Jones 1982, 52 Footnote 4; Morley 1996, 86.
[1295] Goodman 2007, 233, 236; Goodman 2016a.
[1296] Goodman 2016b.
[1297] This not only holds true for the artisanal infrastructure, but also for the juxtaposition residential-funeral architecture. It has, for example, been attested in the *suburbium* of Rome that tombs in the vast majority of cases occupy the zone closest to the roads, while the houses maintained a certain distance (Lafon 2001, 206).
[1298] Frézouls 1990.

visibility and impact within the local landscape."[1299] The *suburbia* were clearly conceived as part of the urban agglomeration and, subsequently, as befitting monumental buildings and ostentatious display by both public and private parties.[1300]

It is safe to suggest that suburban development, and in particular the *continentia aedificia*, was to such an extent dependent on the urban centres that the investing parties were willing to deal with relatively high land prices (in comparison with most rural land more remote from the city). This would be the case for *necropoleis*, which not only had a close symbolic link to the city, but where the 'inhabitants' also profited from security, easy access and a high profile. Secondly, public amenities would strongly rely on accessibility by the masses, but could also serve as billboards for the city's status. Thirdly, artisanal activities would have an advantage in being close to their main customer base and market facilities. They would, on the other hand, also be strongly dependent on the import of raw materials and fuel sources and a steady water supply, which is why their siting would most likely be the result of a careful consideration of all factors involved.[1301] Finally, residential occupation of the *suburbia* would mainly spring from a yearning for living conditions that cannot be found in the city centres. This is why elite estates can be associated more with the rural fringes of the *suburbia* and why we would suggest that living in the actual urban sprawl was not as much a matter of choice as of coercion (either practically, socio-economically or legislatively). While these observations would certainly result in a competition for space (and rising prices) in the immediate surroundings of ancient cities, the distinguishable interests of the above-mentioned factions would warrant to some extent a functionally segregated outcome. This would be reinforced if the available suburban area is limited, for example when the siting of the city itself is based on a topography strategically chosen to protect the city's borders.

Economic opportunities

The relatively high land prices in the ancient suburban environment would have its influence on the development of the area. This was particularly true for the funerary presence in ancient *suburbia*. Since many tombs would withstand the test of time (as they were intended) and *necropoleis* could not keep on expanding indefinitely, space available for burials would become increasingly precious. Funerary plots within the *necropoleis* would often be relatively small and solutions would be sought to incorporate as much burials as possible in a respectful and 'fashionable' way. It has been suggested that columbaria (and probably also *hypogea*) developed as potential solutions for the limited availability of space. Likewise, the *collegia* would often have their own burial plots, ensuring that each member could eventually be accommodated with an appropriate burial.[1302] Another solution to the high costs for erecting and maintaining a funerary plot was by using the plot itself productively. The area around the actual tomb but still within the plot, which was often surrounded by a *peribolos*/*temenos* wall, was often used for small-scale horticulture.[1303] We know of wills that specifically state that the profit made from the economic use of the funerary plot should serve to maintain the tomb, to pay for a custodian or to be used for the organisation of funerary banquets. Others even specify that the wine from the tomb's vineyards could be used in libations or that the flowers should be used to adorn the tomb on the anniversary of the deceased.[1304] Food production would, in fact, remain the main economic purpose of the *suburbia* around Rome (and probably most other ancient cities) and even small burial plots would be significant in this regard.[1305]

While there are many examples of intramural workshops in ancient cities, it is probably not a coincidence that larger artisanal developments are almost invariably sited on the outskirts of the built-up area. This can be partially explained by legal decrees and urbanistic prescriptions[1306], but we should certainly take in account the potential

[1299] Goodman 2016a.
[1300] Gooman 2007, 234.
[1301] Sanidas 2014.
[1302] Morley 1996, 94.
[1303] Purcell 1987a, 29-30; Morley 1996, 94; Campbell 2008.
[1304] Campbell 2008, 35; Brundrett 2011, 60-61.
[1305] Brundrett 2011, 60.
[1306] See for example the Urso Charter (*Lex Coloniae Genetivae Iuliae*, ch. 76) and the Treaty by Julian of Ascolon (Hakim 2001).

economic advantages that a suburban location could provide: (relatively) lower land prices, opportunities for upscaling and expansion, easier access to raw materials and fuel sources, *etc.*[1307] Relatively high land values and subsequent high rental prices make us wonder whether the artisans themselves could have been the proprietor of the artisanal infrastructure in the *suburbia* and *proasteia*. There are examples of (pottery) ateliers that are mere attachments to houses[1308], but there are also clustered workshops that might have been the result of a larger organisational structure of decision-making (and ownership?).[1309] Specific *locatio conductio* contracts are known from Roman Egypt, in which workshops and their infrastructure were leased for specific amounts of time to individual potters.[1310] Also the ownership over resources (raw materials and fuel) would have played its part in this equation.

While *fora*, *agorai*, *macella*, market buildings and all kinds of shops in the city centres would serve important economic purposes, one should also envisage the added value that a suburban setting could offer. Extramural sanctuaries often served as the location for religious festivals, which were inextricably linked with markets (*panegyreis*, *nundinae*,…). Also other large venues could serve such purposes. The necessary infrastructure for markets could be elaborate, but could also be limited to a relatively flat area and an enclosure wall, since the vendor stalls often consisted of temporary constructions in perishable materials.[1311] Suburban markets could offer any type of merchandise, but were mostly associated with cattle markets[1312], which would be more problematic to organise in the centres of ancient towns. Especially the multi-day *panegyreis* would not only be aimed at the town's residents, but at the population of the wider region as a whole. The anticipated mass attendance of such markets and the ease of access would be additional reasons for a suburban location. A similar reasoning may be one of the factors behind the suburban location of several spectacle buildings as well.

Indeed, reachability would undoubtedly be one of the driving economic strengths of *suburbia* and *proasteia*, both when large crowds needed to be accommodated for, as well as when resources and materials needed to be hauled in at a large scale.

[1307] Hellmann 2014, 166-168; Sanidas 2014, 186-187.

[1308] Dupont 2014, 194 studied artisanal workshops at sites around the Pontus Euxinus (Black Sea region) during the Greek period.

[1309] Murphy & Poblome in press.

[1310] For examples of 'nucleated workshops' under a central control, see Poblome *et al.* 2001, 164; Poblome 2006b; Murphy & Poblome in press. For an interpretation on workshop leases, see Dannell 2002.

[1311] García Morcillo 2013, especially 240.

[1312] De Ligt 1993.

11.1.4 Conclusions

In short, ancient *suburbia* – at least in their meaning as 'urban sprawl' (*continentia aedificia*) as opposed to 'elite *villa suburbia*' (see § 3.2) – clearly carried several negative connotations, varying from sentiments of alienation (with regards to the Realm of the Dead) over feelings of aversion (toward unpleasant noises, odours, disturbances…) and revolt (to the activities/people shunned from the city centre) to whether or not irrational fears (for robbers, death,…). These would of course partially overlap with sentiments that would also apply to the city centre (annoyances) and the countryside (fears), but they all came together in the periphery of the cities. On the other hand, the ancient *suburbia* and *proasteia* also offered specific advantageous conditions, which were not always interchangeable with the urban conditions. The main advantages would be the opportunities for *amoenitas*, (status) display and economic development. The former aspect is mostly attributed to the more 'rural' *suburbium* of elite *villa* estates, but could also refer to 'pleasant' public infrastructure in the immediate surroundings of cities (gardens, *gymnasia*, *etc.*). In many cases the negative aspects may have been predominant in the immediate vicinity of ancient cities. We noticed that residential development in the *continentia aedificia* mostly consists of simple dwellings, while the ones who could afford the choice would seek more rural conditions. Distance from the city centre was not the only factor in this endeavour, as has been demonstrated by the case study of Timgad.

However, how did ancient people themselves conceive the potential negative issues associated with their suburbs? For all we know children might have played between the waste dumps, young couples might have found comfort and privacy in a remote tomb enclosure, families might have enjoyed a stroll through the suburban gardens, *etc.* Some of the negative aspects described above might be understood as an anachronistic transfer of sentiments from our current point of view and would not have been recognised as such by the contemporary citizens of the towns and cities in Antiquity (the same holds true for some of the positive aspects). For example, even though waste was undoubtedly regarded as impure and avoidable, the real health threats emanated from deficient waste management appear not to have been fully grasped. On the other hand, less substantiated associations between diseases and dead bodies *did* prevail in those days, thus still discrediting the suburbia. The negative associations described in the above paragraphs are based on sentiments expressed by the ancient authors themselves, but can they be acknowledged as the voice of the entire populace? When comparing the living conditions in the *suburbia* with either the town centres or the countryside, many suburban developments *do* seem to have incorporated some of the worst qualities of both (crowdedness and pollution of the city, lack of social control of the countryside) and to have added some (unmistakably?) negative aspects unique to the urban fringes (waste dumps, the sprawling cemeteries). It is hard to imagine that this would not have repercussions on the beliefs the inhabitants of the Ancient World held with regards to the *suburbia*.

Other suburban developments have been described as paragons of elegance, at least in the way they were originally intended. It was clearly the purpose to create havens for relaxation and leisure as close to the city as possible, especially if the city itself could not offer the potential.[1313] However, continued urban sprawl might have a negative effect on such sites. It is probably not a coincidence that Alciphron paints a less optimistic picture of the Craneion *proasteion* in Corinth than his predecessors Plutarchus and Pausanias. Conversely, governmental and private interventions alike can turn a previously deprived or abandoned plot of suburban land into an exemplary suburban development, as has been demonstrated by the Campus Martius in Rome.

Some of these negative aspects would have been all the more 'highlighted' at night. After all, pottery production was only practised seasonally, which meant that a part of the social control within these quarters would evaporate during long periods of the year. There are indeed less indications for residential use of the *suburbia* than for any other of the above-mentioned activities and purposes. When we take in account that nights could be pitch dark without artificial lighting and that the *suburbia* were in most cases notoriously chaotic in layout,

[1313] It is probably not a coincidence that the 'elegant and green *proasteion*' was originally a typical Greek concept, as Greek cities were not particularly known for their intramural garden culture (Giesecke 2007, VII). See also Campbell 2008 and Brundrett 2011.

the risk of getting injured or being raided would seriously increase. Unless strictly inevitable, travellers would avoid moving about after nightfall.[1314] While the barracks of the *vigiles* could be located in the suburbs[1315], their main target would most probably have been the city centre and residential quarters of the towns. On the other hand, the *suburbia*, after nightfall, with their lack of social control, their maze of alleys and the apprehension their *necropoleis* evoke upon religious citizens, would provide potential wrongdoers with an ideal cloak of inaccessibility.[1316]

In the above paragraphs we have outlined a general framework of issues and opportunities that can be attributed to the *suburbia* and *proasteia* in ancient Greek and Roman cities. The term 'marginal' has been a recurrent term, used not only by the author, but also quoted in a variety of ways from several scholars. In most cases 'marginal' is used to denominate the physical peripheral position of the *suburbia* vis-a-vis the town centres, but it has also been used as 'marginalising' in the sense of 'intentionally excluding something or someone' from the city (with the city in most cases being the equivalent of the *pomerium* and thus symbolising the sacred 'Realm of the Good Citizen'). Marginalisation thus already entails, to a large extent, a negative value judgment. We have demonstrated that this starting point was further aggravated by an accumulation of issues inherent to many of the ancient suburbs, while it was conversely alleviated by several opportunities that were unique to a suburban setting. We believe that the evidence outlined in these paragraphs suggests that we should refrain from encompassing statements concerning ancient *suburbia* in general. Each case should be studied in its own right. The accumulated research on the Eastern Suburbium of Sagalassos presented in this thesis will allow us to do just that.

[1314] Hinds 2009, 141: "[...] *with no streetlights of any kind, it was very easy for thieves to sneak up on pedestrians at night. Not surprisingly, Roman city dwellers rarely went out after dark; if they had to, slaves or hired boys carried torches to light the way. Nighttime travelers who were poor rarely had these options. And thieves were not the only hazard, since it was difficult for people to see even where they were going in the darkness.*" See also Hope 2009, 175-176.

[1315] Sablayrolles 1996.

[1316] Apuleius, who lived and wrote in the 2nd century AD in various Latin and Greek parts of the Empire, describes how thieves use a tomb to hide their loot (*Metamorphoses*, 4.18.21).

11.2 The Eastern Suburbium of Sagalassos

11.2.1 Introduction

In the above paragraphs, we have exposed the extremities of the spectrum when discussing the qualities of ancient suburbia, both in negative and in positive sense. Obviously, not all cities had densely built-up *suburbia*/*proasteia*, with 'industry-scale' artisanal activities, a marshy environment, insurgent associations and chronically burning waste heaps. Likewise, not all *suburbia*/*proasteia* were green havens for leisure, interspersed by the occasional landmark monument. But it may be clear that the outskirts of the ancient towns offered a unique matrix, where specific problems or chances could stem from. In the paragraphs below we will try to assess to what extent the Eastern Suburbium of Sagalassos caused issues or offered opportunities for the residents.

11.2.2 Issues

Waste management

> *"Potter's Field*
>
> *Here nauseous weeds each pile surround,*
> *And things obscene bestrew the ground:*
> *Skulls and bones in moulding fragments lie,*
> *All dreadful emblems of mortality."*
>
> From Webb's *Collection of Epitaphs* (1775)[1317]

The inevitably subjective terms 'waste' or 'refuse' can be defined as "*objects the holder discards, intends to discard or is required to discard*".[1318] This can be interpreted in a variety of ways, since waste to one person is not necessarily waste to another. It also depends on local laws and culture, especially when considering 'objects required to discard'. Moreover, objects that can be recycled are strictly not waste, even if they ended up in a landfill. Whether or not the infrastructure and ability to recycle is present, can thus also change the definition. Specifically for this Eastern Suburbium case study, we have to define refuse/waste/rubbish from the position of the contemporary citizens.[1319]

The **'dumps'** described in these paragraphs are assemblages of items[1320] that no longer had any use to the ancient inhabitants of the city and that were deliberately left behind in a clearly discernible concentration. We use the term **'landfills'** for larger dumps, possibly municipally or communally run, that took up a large space that could no longer be used for any other purpose (such as horticulture, buildings, road/water infrastructure, *etc.*). We, however, have also encountered concentrations of items that were deliberately left behind (*not* accidental losses), while they could still have been put to use (*e.g.* complete vessels and utensils). These latter assemblages we wish to differentiate from the 'dumps' by referring to these as **'deposits'**. It needs to be remarked that once the original intention of the deposits lost its significance or was forgotten, deposits were most probably regarded as 'mere' dumps (which is all the more reason to include them in these paragraphs on waste management). Contexts that we do not regard as 'dumps' nor 'deposits' are anthropogenic layers (sometimes containing huge amounts of dumped materials) that were part of a structural interventions (*e.g.* to backfill a foundation trench,

[1317] Bodel 2000, 128. Potter's fields were rendered useless for agriculture and in many cases were turned into burial grounds for the indigent. Many graveyards in North America still carry the name 'Potter's Field', but the origin of the term dates back to a reference in the New Testament (Matthew 27.3-27.8). See also Footnote 148.

[1318] European Waste Framework Directive 75/442/EC of 17 June 2008, as amended.

[1319] For example, archaeologists can glue ceramic and glass vessels back together to fully operable utensils (or, in the least, to items with a certain display value), but the sherds that were once discarded would have had no practical value left whatsoever for the person who decided to dump them. And *vice versa*, some metal shrapnel might appear as useless junk to anyone but the metal specialist of the team, but it would certainly have been recovered in ancient times in times of metal shortage.

[1320] 'Items' have to be understood as a very wide category of possible remains, including eco- and artefacts, production refuse, excrements,…

to level a construction site, *etc.*). Destruction layers, on the other hand, could arguably be considered as dumps, but these are remarkably underrepresented in the Eastern Suburbium. The dismantling of many of the structures – especially the fully or partially brick-built and ashlar-built ones – happened in a very thorough way, leaving no reusable material behind.[1321]

Waste management in the Eastern Suburbium of Sagalassos cannot be set apart from waste management in the rest of the city. We will, however, not go into detail on all the dump contexts in the excavations that have been executed throughout the city centre. It suffices to say that almost anyone who ever dug a campaign at Sagalassos will have encountered refuse[1322] in a wide variety of ways in many contexts. These can be small concentrations, but also huge rubbish heaps[1323], in remote spaces as well as in more prominent locations. In general, large dumps (at least dumps as defined above) in the city centre do not appear in the earlier centuries, but become more common in Late antiquity.[1324] There clearly must have been an organized waste disposal management, even if this was not a strictly followed rule of thumb for the earlier centuries either. A lot of the waste generated in the city centre could, for example, have ended up in the earthworks of building projects. Even if significant efforts went in the revitalisation of the city fortifications[1325] and in large-scale restauration works on the Imperial Baths during Late Roman times, new construction sites in the city become extremely rare after Severan times. The Early Byzantine times would herald the erection of several churches (see § 9.3), which were in most cases built on top of and with the *spolia* from older buildings, thus requiring relatively little additional earthworks. The reuse of waste in construction projects would indeed have been a very effective way to deal with a large part of the production refuse.[1326]

The reuse of waste as construction filler would only to a minor extent have played its part in the Eastern Suburbium (**Fig. 11.6**). The terracing layout along the northern slopes would indeed have required large earthworks, but this could largely be resolved by shifting the available earth around (see § 5.2.3), especially since soil would have made a more effective fill anyway. Other construction sites at the Eastern Suburbium were either relatively small in scale (workshops, tombs, *etc.*) or were located on fairly level ground (site G complex, PQ 2 *schola*, *etc.*). At the same time, the artisanal activities in the Eastern Suburbium – especially pottery production, metallurgy (?), limestone quarrying and *sarcophagus* carving – would yield massive amounts of production waste in the form of slag, misfired pottery, kiln waste and stone chippings. Since there were – apart from practical considerations – little to no restrictions on dumping waste within the area itself, it should be no surprise that waste dumps by Late Roman times would have become a major factor in the competition for space within the Eastern Suburbium.

[1321] This has been attested for the site G complex and the so-called 'shrine' to its northwest, the Hellenistic monument at site F, the PQ 2 *schola*, the *naiskos* tomb, the monumental tomb at PQ 3 and to some extent also the burial compound of PQ 4 and the PQ 5 church.

[1322] For a detailed discussion on discard and reclamation of (mainly ceramic) refuse, see a.o. Theodore Peña 2007, 272-318.

[1323] For example, several of the vaulted rooms supporting the bathing sections of the Imperial Baths have been used for decennia to dump the refuse generated at the adjacent Lower Agora, the economical heart of the city.

[1324] Poblome 1999a, 283-287: Jeroen Poblome based his study on the tablewares of Sagalassos on a variety of contexts from sites excavated throughout Sagalassos in the '90. Only in some cases do these assemblages concur with the definition for 'dumps' as explained above. Nevertheless, the building history of several monuments in the city centre could be reconstructed based on the detailed study of the ceramics (and coins) in the relevant contexts.

[1325] As is suggested by recent research, see Footnote 222.

[1326] Theodore Peña paints a similar picture for Rome during the Late Empire, when the municipal service of refuse collection appeared to have been discontinued and large areas within the city became buried underneath huge dumps of domestic and construction refuse. During the preceding Early and Middle Empire, the *quattuorviri viarum curandarum* would have been responsible for this service, probably by subcontracting individuals (*stercorarii*) who collected refuse from designated dumping points (Theodore Peña 2007, 278). This would either be hauled away to dumping grounds outside the city (thus into *suburbia*) or be used as filler on new construction sites. Indeed, the sharp decline in recycling *amphorae* for the building industry has been put forward as one of the main contributors to the increase in urban waste dumps (Rodríguez-Almeida 2000, 125).

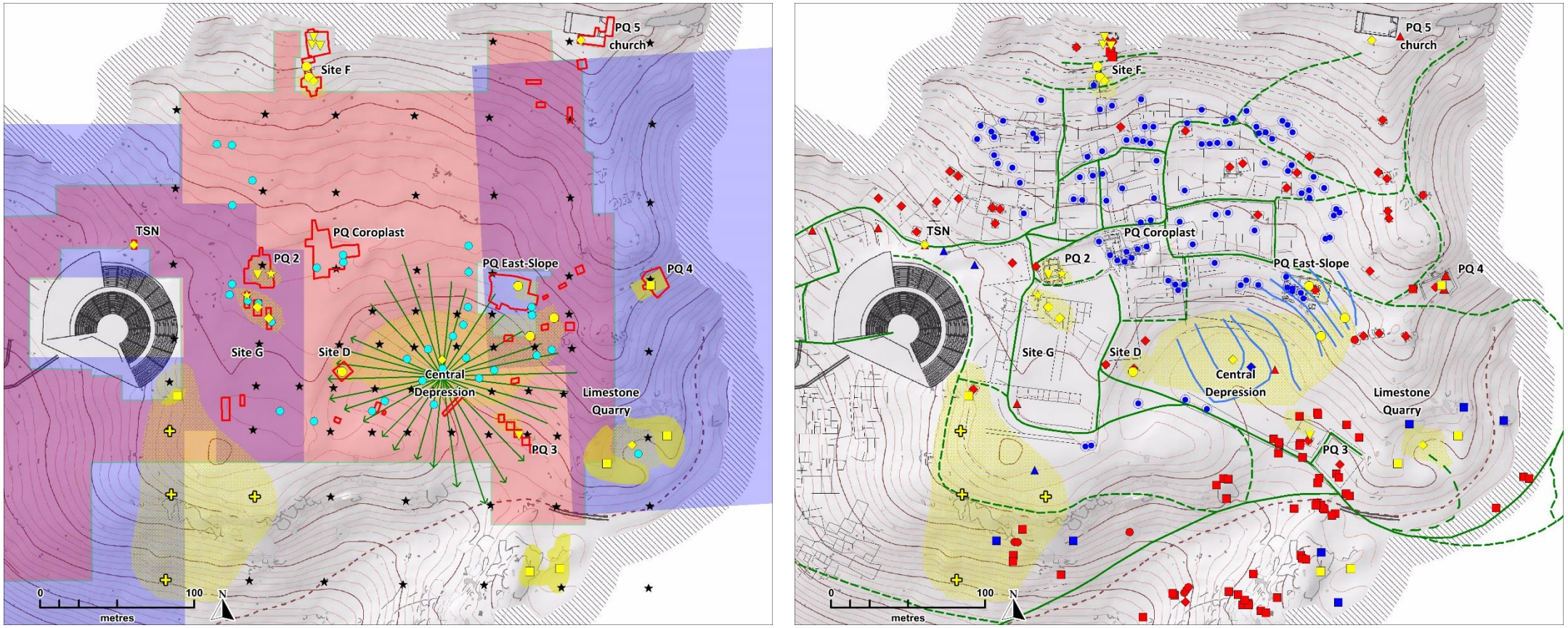


Fig. 11.6 a/b. Maps of the Eastern Suburbium with indication of the applied research techniques (a) and the research results (b) relevant to the study of the waste management. Both maps show the different waste dumps, waste deposits and landfills in yellow: circles = pottery dumps; stars = offal/faunal dump; squares = stone (quarry) dumps; diamonds = mixed dumps; crosses = manure (?) dump; triangles = (ritual) mixed deposits. The large landfills are indicated with full yellow (stone dumps) or shaded yellow (other dumps).

- **a) Main research techniques: excavations (areas outlined in red); boreholes (light green dots); tomography sections (green); multi-method geophysical survey (red background); intensive field survey (blue background); geochemical soil survey grid (black stars).**
- **b) Relevant research results: structures (black lines); terrace walls (dashed black lines); street network (green lines); funerary presence in red (triangles = *osteothekoi*, squares = *sarcophagi*, dots = *arcosolia*, diamonds = monuments); artisanal activities in blue (dots = kilns, triangles = metallurgy (?), squares = stone quarries, diamond = clay quarry, blue lines = quarry terraces).**

Since dumps could in many cases only be identified through excavations and boreholes, the map above should be interpreted as representing only a minor part of the total amount of waste present in the Eastern Suburbium by Early Byzantine times.

Waste would still have been carted off if that would have been profitable or practical. Limestone chips resulting from quarrying activities and stone carving, for example, could have been used for the production of lime (and thus mortar). Likewise, large amounts of slag have been encountered throughout the Elmalı Pınar valley, which were interpreted as being used as an aggregate in the construction and upkeep of the road leading up towards the Eastern Suburbium (see § 6.2.1). Femke Martens observed similar dispersed distributions of (metal) slag on the outskirts of the Western Residential Quarter, where it was tentatively interpreted as proof for nearby smithing activities.[1327] Nevertheless, these distributions were also not concentrated into clear dumps, and we would suggest as an alternative explication that also in this western part of the city production waste could have been put to use as an aggregate for road works. The encountered slag not only originated from metal smithing, but also from pottery (and glass?) production, in many cases difficult to distinguish on a macroscopic level. This also explains the absence of real misfired pottery in the dumps encountered throughout the Eastern Suburbium.[1328] On a smaller scale, we also need to keep in mind the recycling process of many items for other intentions than their original purpose. An example can be found in the tools used by potters in Sagalassos, which are often manufactured from faunal or ceramic refuse.[1329]

On a larger scale, it is possible that a lot of the rubbish generated in the Eastern Suburbium was used to backfill the trenches and pits left open after the Hellenistic clay mining in the Central Depression. These so-called 'potter's fields' were rendered useless for agriculture and in many cases were turned into burial grounds for the indigent (see Footnote 1317). The reuse of parts of these quarry grounds as burial plots is indeed demonstrated by the PQ 3 excavations at the entrance of the Central Depression (see § 7.4.3). The geophysical survey of the quarter, however, suggested that the more central parts of the depression never became part of the built-up parts of the *suburbium*. This might appear odd, since today this consists of some of the most level land of Sagalassos, but the situation in ancient times must have been rather different. The series of borehole samples that were collected from the Central Depression (**Fig. 11.6**) indicated the presence of irregular terraces, probably resulting from clay quarrying activities in Hellenistic Sagalassos (which might have continued in Roman times). The walking level was far below the current level, as is also suggested by the tomogram acquired by the geophysical resistivity survey of the area (**Fig. 11.7**). The post-quarry landscape was undoubtedly unsuitable for permanent development. The clay extraction would have amplified the topographical characteristics of the Central Depression, which created the wet conditions necessary for the formation of suitable clays possible in the first place. Thus as a consequence of quarrying activities, the terrain would have been even more prone to serve as a natural receptacle for the runoff water from the wider surroundings. With this in mind, the massive scale of post-quarry waste dumping into the Central Depression, as suggested by the boreholes (see § 4.2), could be understood as an effort to drain the land or even to reclaim the area for possible use. These operations did not seem to have resulted in the area to be reused for actual constructions, but it might have been a prerequisite for the installation of the main road leading into the *suburbium* from the southeast (see § 6.2.1). Moreover, it might have been successful in preventing the formation of stagnant pools of spoilable water, which were associated with disease (see § 11.1.2 above and § 11.2.2 below).

[1327] Martens 2005, 243-244.
[1328] Poblome *et al.* 1998b.
[1329] Murphy & Poblome 2012.

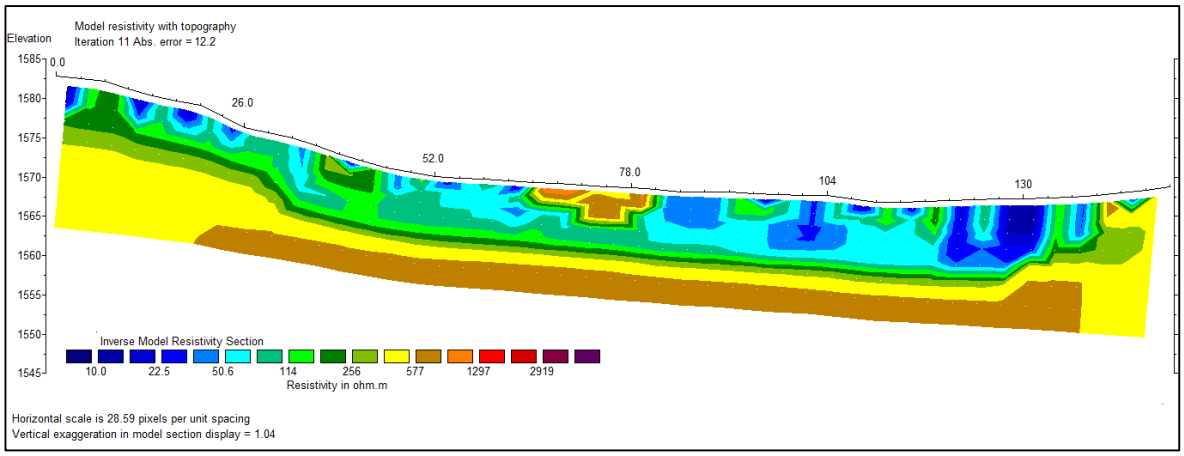


Fig. 11.7. Electrical resistivity distribution of the subsoil of the Central Depression, NW-SE cross-section. The brown/yellow probably represents the ophiolite bedrock; the green shades the weathered ophiolite (see also Fig. 6.21).

In any case, the Central Depression would have been an ideal suburban location to be used for large-scale rubbish dumping. Since the Eastern Suburbium is located above the city centre[1330], it is unlikely that large amounts of the waste generated in the town itself would have been hauled uphill; there must have been suitable locations downhill as well, *e.g.* in the suburban areas covered by parts of the Southern Necropolis. It is more likely that the landfill covering large parts of the Hellenistic clay quarry mainly consisted of production waste from the various artisanal activities in the immediate surroundings (stone quarrying, pottery production, probably metallurgy[1331], *etc.*) and by earthworks. The elongated test trench that was dug near the southwestern entrance to the Central Depression did not expose layers that could be identified as resulting from a landfill, while it did reach natural ophiolite deposits. It can be imagined that dumps would have piled up below the points they were most likely dumped from. We should therefore expect most of the landfill to occur along the western, northern and eastern slopes, gradually accumulating at the foot of those slopes rather than in the central parts and southern edges of the depression. Post-occupational erosion would to some extent have shifted, levelled out and buried these presumed dumps. On the eastern slopes of the Central Depression, however, erosional processes likewise exposed a large pottery dump, which might have been an extension of the main dump covering the whole slope below (**Figs. 8.58-8.59**).

Parts of the slopes surrounding the Central Depression were occupied by burial plots, but also these were not exempt from interference: the burial compound of site D, for example, which was located on the western slopes, was covered by thick layers of pottery wasters and production refuse after the collapse of its roof in the 5th century AD (see § 8.4.1). By that time much of the central parts of the depression as well as the surrounding slopes appear to have been part of a continuous landfill, extending at least 155 m east-west and possibly up to 105 m north-south, covering a potential surface of more than 7,500 m² (**Fig. 11.6**). Some backfilling operations would have been executed with a clear structural purpose in mind, *e.g.* the 2nd century AD levelling operation of clay mining pits at site PQ 3 (in function of the development of this part of the old quarry into burial plots)[1332] and most probably also for the construction of the main road. It is also possible that an unknown section of the quarry was kept open, since the local clay is one of the possible sources used for the slip of the SRSW (see § 6.3.1). Nevertheless, most of the landfill appears to have eventually occupied the Central Depression and at least

[1330] Height differences of 90 m and 55 m would have to be surmounted in order to reach the Central Depression from respectively the Lower and Upper Agora.

[1331] The immediate surroundings of Sagalassos appears to have been polluted with elevated levels of heavy metals. Sofie Vanpoucke regards the high contents of heavy metals in pig bones excavated in Sagalassos, as an indication *"that these animals were mainly being herded in, or, fed with fodder from polluted areas, i.e. in the vicinity of the city"* (Vanpoucke *et al.* 2009, 138). Similar observations have been made by other studies as well (Degryse *et al.* 2004; Fuller *et al.* 2012; Bakker *et al.* 2013, 75-77).

[1332] PQ 3 2012 internal excavation report by Elizabeth Murphy. A concise version of this report appeared in the *XXXV. Kazı Sonuçları Toplantısı* (Turkish).

parts of its surrounding slopes. During the 1989 excavation of site D, the archaeologists identified the three upper layers as dumps, accounting for a 1.15-1.75 m thick fill on a steep slope.[1333] The 1997-1998 drilling cores collected from across the Central Depression encountered sherds at a depth of more than 5 m below current walking level (see § 4.2). There are too many biases and variables on these data to assume similar numbers for the whole potential landfill area, but we are obviously dealing here with many thousands of cubic meters of waste and soil that was manually dumped into the Central Depression.

The nearby limestone quarry might have been used as a dumping ground as well, once the quarrying activities were abandoned. One (unpublished) drilling core was collected from the centre of the quarry floor (**Fig. 11.6 a**), suggesting that several meters of anthropogenic layers had accumulated there.[1334] The quarry's work floor is further almost fully enclosed by two large, fan-shaped dumps of chippings on either side, amounting to several meters in altitude. The amount of waste produced from this quarry gives an idea about the quantity of stone that must have been extracted at the site. No research has been undertaken yet into the period(s) of use of this large quarry and the chipping dumps are obviously difficult to date. We do know, however, that the stones from this quarry were used in the Late Hellenistic Fountain House as well as for the Trajanic-Hadrianic *nymphaea* of the Lower Agora and the Antonine Theatre (see § 5.3.1 and § 6.3.5). This means that it is likely that the site was not reused as a dumping ground before the 3rd century AD.

Large dumps of stone chippings, originating from the extraction or processing of limestone, have also been encountered at other locations in the Eastern Suburbium. Parts of the southeast facing slopes south of the Central Depression are covered by large man-made screes of stone chips, which most probably should be related with the production of *sarcophagi* (**Fig. 8.62**). Dozens of *sarcophagi* have indeed been encountered in the immediate surroundings, dotting the northwest face of the same, rocky slopes (**Fig. 11.6 b**). The decorated *sarcophagi* could be dated to the 2nd and first half of the 3rd century AD, while we suggested earlier in this thesis that some of the undecorated *sarcophagi* and *chamosoria* might predate the decorated ones (see § 7.4.8). Another dump of stone chippings, close to the southeastern corner of the Theatre, should probably be related to the construction of the Theatre itself, which has been dated to 120-190 AD. Most probably, semi-finished stones that were hauled here from the limestone quarry southeast of the Eastern Suburbium (over a distance of 410 m along the road, surmounting a height difference of 14 m) were further shaped into the required form and size immediately next to the construction site. Finally, the PQ 4 burial compound was upon abandonment used as a dumping ground for stone chippings in the first half of the 6th century AD (**Fig. 8.63**). The production waste must have originated from an unidentified quarry nearby, but most probably upslope, since it is unlikely that such a huge weight would have been moved uphill if not strictly necessary. Indeed, the stone chippings appear to have been dumped into the compound from a gap in the northern, upslope wall.[1335]

We are not going to describe each individual dump and deposit, since they have been covered in detail in the preceding Part 2 (Ch. 4-9). Almost every excavation site at the Eastern Suburbium has produced several large-scale waste contexts. Only the PQ 5 church site, towering on the ridge above the rest of the *suburbium*, was obviously a very unlikely place for a dump to materialise. The site of the PQ coroplast workshops appears to be the real exception, but the lack of large dumps can be explained by the fact that the site was still fully operating in the first half of the 6th century AD (see § 8.3.2). There was in fact a post-6th century AD phase at the site, but those interventions should most likely be linked to agricultural activities. This means that the site – probably the whole Eastern Suburbium – was by that time no longer producing large amounts of waste. It also means that by that time very large parts of the Eastern Suburbium were actually engulfed in waste deposits. This not only holds true for the Central Depression and the exhausted limestone quarry, but also for the lower terraces of site F (the upper terraces were already inaccessible due to erosional screes), the northern parts of the site G complex, the PQ 2 *schola*, the burial compound at site PQ 4 and the *temenos* surrounding the *naiskos*. In fact, even considering

[1333] Waelkens *et al.* 1990, 121-123, 138 Fig. 5, 139 Fig. 6.
[1334] Personal communication by Patrick Degryse.
[1335] Talloen 2012, internal excavation report. See also the *XXXV. Kazı Sonuçları Toplantısı* for a concise report (in Turkish) on this excavation (Talloen & Poblome 2013, 250-251).

the disseminating effect of post-occupational erosion, trampling, ploughing and other post-depositional processes, possibly a majority of the surfaces exposed by excavation were covered by waste dumps by the end of the 6th century AD. Due to the variety and distribution of the excavated sites, it is probably justified to extrapolated this observation for the whole Eastern Suburbium.

The vast majority of dumps encountered in the Eastern Suburbium consist of rather 'sterile' materials: misfired pottery, kiln waste, stone chippings, soil, *etc.* The apparent lack of permanent residential presence within the quarter means that domestic refuse is rather rare. It can also be understood as an indication that waste produced in the city centre would rather have been brought to dumping grounds downhill. Nevertheless, we do not possess enough data to either affirm or cancel the Central Depression as a communal dump that might also have served, for example, the nearby Eastern Residential Quarter.[1336] It appears sensible that organic waste, cadavers, offal and the like would be concentrated in a single location, which might be the reason why we do not encounter a lot of large-scale mixed dumps in the Eastern Suburbium trenches before Late Antiquity. Waste disposal management appears to become more lenient from Late Roman times onwards, with (partial) animal carcasses appearing in dumps at various locations throughout the Eastern Suburbium and at other contexts within the city texture.[1337] The Central Depression could have been such a central location for domestic dumps; intermediate layers of soil/lime could have reduced the negative impacts of rotting refuse and could have kept the threat posed by vermin within bounds. But the few contexts of mixed refuse that actually *were* encountered, show that there were no rigorous directives to be followed. Contexts such as the slaughter refuse dumped against the northern wall of the site G complex or the mixed dump of meal remains outside the eastern wall of the PQ 2 *schola* appear to have been open and exposed, only to be buried centuries later underneath new layers of waste and/or natural erosion. Contexts of mixed refuse that actually were buried immediately, such as the burial meal remains on the upper terraces of site F and the communal meal remains within the PQ 2 *schola*, cannot be detached from their ritual significance. The mixed dumps accumulated during the period of use of the respective buildings (**Table 11.1**, green shaded areas), and can thus not be linked with a phase of neglect or abandonment.

The geochemical soil survey of the area, by means of collecting and analysing topsoil samples, did not provide conclusive answers regarding the possible presence of specific artisanal activities in the Eastern Suburbium, but it clearly showed how human presence left its traces in the form of especially increased values of Cu, P, Zn and K.[1338] Possibly significant for the study of the waste management in the area, are the high values for P (phosphorous) on the steep, rocky slopes immediately south of site G. Phosphorous is prevalent in urine, faeces, ashes, plant and animal tissue and bones, and can result from a variety of activities, but it is especially regarded as an important indicator of occupation waste or manure. The waste can only have ended up on these inaccessible slopes if it was dumped there from above; erosional processes, which were considered as an important bias factor to the study of the geochemical samples,[1339] are less likely to have played a role because of the level ground immediately above. Additionally, no permanent presence has been attested on these cliffs, which makes the high numbers of phospherous all the more contrasting with the lower indications for the rest of the densely occupied Eastern Suburbium. The nearest location that could have served as the source of the waste is the site G complex to the north, which has been suggested as a multi-purpose area that could have served a.o. as the livestock market of the city. The nearest location where animal faeces could have been dumped – without causing too much nuisance to this public area – would have been these steep cliffs south of the site.

[1336] The presence of a 4th – early 5th century AD domestic waste dump encountered throughout the northern trenches of the site G complex, suggests that waste indeed was brought in from the adjacent residential quarter.

[1337] Van Neer & De Cupere 1993, 227; De Cupere 2001, 69-70.

[1338] Dirix 2014, 19-22, 91-92, 81-109. These results are based on a large sampling grid, in which the values for the Eastern Suburbium could be compared with the adjacent Elmalı Pınar valley (referred to as 'Gökpınar' in the dissertation).

[1339] Dirix 2014, 6-7. Another area that yielded elevated values for phosphorous was the northern half of the Central Depression (Dirix *et al.* 2013, 242 Fig. 8). Erosion might have played a larger role in this case, but the values might also be understood as an additional indication for the use of the Central Depression as a large landfill, while also the possible post-occupational use of the Central Depression for agricultural purposes can be an explanation. In the latter case, however, a more equal spread of the phosphorous might be expected.

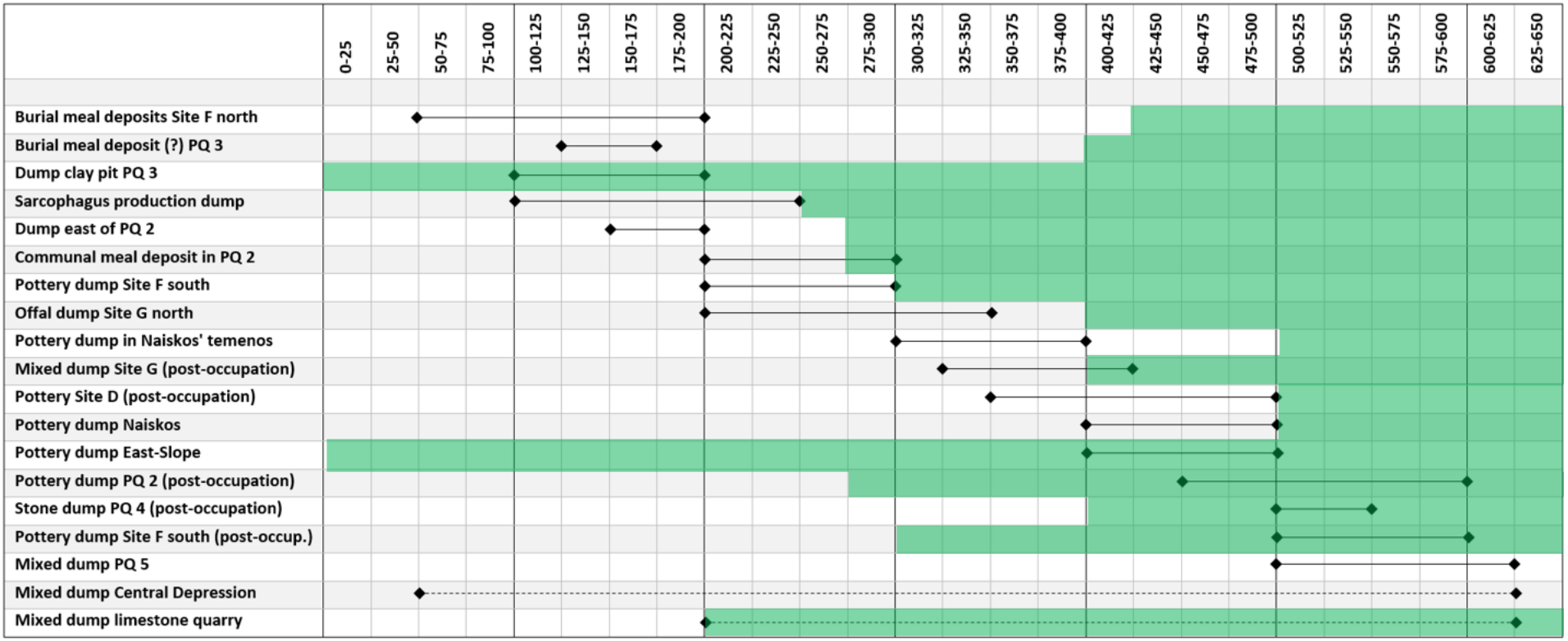


Table 11.1. Chronological overview of the dateable dumps, deposits and landfills encountered throughout the Eastern Suburbium. The dashed lines represent uncertain dates. The green shaded areas indicate the period of abandonment of the respective sites. The waste dumping contexts are rather evenly spread throughout the period of intensive (artisanal) use of the quarter and were in most cases already ongoing during the period of use of the site. A similar exercise for the city centre would have its emphasis more towards the final centuries.

The rubbish dumping process was most probably underway from the onset of the large-scale development of the area in the 1st century AD, as can be understood from **Table 11.1**. There were most likely no rules that would have prevented anyone from dumping onto his own private terrain in the funerary-artisanal suburbs of the town. Apart from that, waste dumping might have taken place on a considerably larger scale on municipally or communally run landfills, *e.g.* the clay quarry grounds in the Central Depression or the exhausted limestone quarry. Towards the final centuries, land ownership might have been an increasingly less important factor in this process, with abandoned and neglected plots fair game as dumping grounds for any neighbouring artisanal activities (*e.g.* the stone dump in the PQ 4 burial compound or the pottery dump within the *temenos* of the *naiskos* tomb). This process of uncontrolled dumping would only have aggravated throughout the centuries, making the presence of dumping grounds an increasingly important factor in the competition for space. Undoubtedly, smaller and medium-sized dumps might have been removed from time to time, when land became more valuable. Larger dumping grounds, such as the Central Depression, would have been the logical end-of-the-line for these operations, but also these interventions would not stop the general tendency towards a growing impact of waste on the area.

The image that appears from the Eastern Suburbium of Sagalassos is certainly that of a suburb littered with piles of waste. This would have been all the more obvious in the final centuries of the quarter, not because the attitude towards waste dumping became more casual, but because rubbish would keep on accumulating and gradually more and more spaces would be occupied by it. The position of the Eastern Suburbium, located at a higher altitude than the city centre and the residential quarters, might have limited the import of domestic and other refuse, but the intense level of artisanal activity in the quarter would have guaranteed a constant accumulation of waste. Most of this waste was not organic; stone, slag and pottery dumps would not have constituted serious health risks. But neither were offal and food remains disposed of with more caution, making the whole area a haven for pests. However, similar conclusions can probably be drawn for most of the residential quarters and even for parts of the monumental centre. The waste management – or lack thereof – in the Eastern Suburbium would not necessarily have constituted a higher health risk factor for the people frequenting the area, but it would have made the suburbs certainly an increasingly less pleasant environment.

Health

As seen in § 11.1.2, the *suburbia* of ancient cities would in some cases offer a combination of factors that would lead to overall unhealthy living and working conditions. This was the case when overcrowding, 'heavy industry', *necropoleis*, communal activities and large-scale waste dumping accumulated into a tight spot. These conditions are inevitably assessed from a modern point of view and are not directly related to the sentiments that the ancient *suburbia* conveyed for their patrons. But since the situation was in many ways (even) more dire than the conditions of the residential quarters and since their appreciation of the *suburbia* would also have been stained by their own contemporary negative connotations (*e.g.* towards *necropoleis*, towards *collegia*, *etc.*), the ancient inhabitants would probably have held negative feelings towards the peripheral quarters of their cities as well. The Eastern Suburbium of Sagalassos appear to have provided a scenario in which the factors causing unhealthy living and working conditions appear to have collided.

First of all, the occupation density of the Eastern Suburbium appears to have been high from the 1st century AD onwards. All extensive excavations, spread more or less evenly over various parts of the *suburbium*, yielded features or structural remains dating back to at least the 1st century AD. With the waste disposal activities, Roman Imperial monumental tombs and unrelenting pottery activities increasingly putting pressure on the available land, there is little doubt that the quarter was intensively occupied during most of the Roman times. This must have been the case especially during the 2nd and 3rd centuries AD, when we notice how buildings change purposes (PQ 2: from cultic building to *schola*?, see § 7.5.1), plots change functions (*naiskos* tomb constructed on top of one of the PQ 1 workshops, see § 7.4.2) and previously vacant land gets developed (PQ 3: burial compounds at entrance Central Depression, see § 7.4.3). The unplanned sprawl of the quarter would have contributed to a sense of overcrowding and would have hindered an efficient management of the communal issues (water, waste

disposal, traffic, *etc.*) within the quarter. The maze-like layout would in turn have resulted in a sense of insecurity, especially at night.

Secondly, the pottery craft within the quarter had clearly transcended the sheer household level and in many ways operated on a more 'industrial' scale (see § 6.3.1), which came with the related health risks for the workers as well as with the polluting effects on the general environment. The most common disease which can be associated with ceramic production – and which is unrelated to the possible use of hazardous substances – is pneumoconiosis (literally 'dust lung', also known as 'black lung'), caused by a long exposure to fine clay dust in badly ventilated workshops. One of the most dangerous varieties, silicosis (also known as 'potter's rot'), is caused by inhalation of crystalline silica in the form of powdered quartz[1340], a mineral contained within some of the clays used for Sagalassos Red Slip Ware.[1341] While it is true that some of the potting activities could have taken place outside, the layout and organisation of the studied workshops suggests that much of the work went on in at least partially closed-off spaces (see mainly § 6.3 and § 8.3). Additionally, apart from the obvious safety hazards involved with kilns, the firing of pottery can also release hazardous gases, vapours and fumes, depending on the inclusions present in the clay matrix, which can adversely affect health if inhaled.[1342] The scale of the pottery production and the associated amount of fuel needed for combustion in the kilns must also have had an impact on the natural resources of the wider territory.[1343] Until now, there is no knowledge on the type of fuel that was used in the pottery kilns; none of the excavated kilns contained remains of charcoal in their combustion chambers. Studies suggest that the forests around Sagalassos were actively and successfully managed throughout Antiquity[1344], which might be an indication for their importance as building material and as sources of energy for the region. Also the presence of other artisanal activities, such as glass production and metallurgy, has been suggested for the Eastern Suburbium, so far without indisputable evidence. The multi-element soil prospection of the Eastern Suburbium, for example, did not detect anomalous values that could be linked with metal production, but it did differentiate the *suburbium* as an area with enriched values of Ba, Al, As, Sr, P, Cu, Pb, Zn and K, the latter five of which are all potential indicators for ancient human activity. Comparing the Eastern Suburbium values with those gathered from the adjacent Elmalı Pınar valley clearly indicates how much the Eastern Suburbium has been subjected to human presence.[1345]

Thirdly, *necropoleis* could be considered as a health-risk in their own right, when bodies of the deceased were not disposed of in an adequate way. No mass burials have been encountered within the Eastern Suburbium of Sagalassos, nor bodies that were negligently disposed of. Some of the burials encountered at site F stood out as relatively shallow pit burials (see § 7.4.7), but this may be partially due to post-depositional erosion processes. Nevertheless, for the ancient inhabitants of Sagalassos, as for the rest of the Graeco-Roman World, the *necropoleis* were most probably regarded as polluted territory, with the corpses of the dead believed to be harmful for the living.

Fourthly, the above outlined waste disposal practices attested throughout the Eastern Suburbium would have involved several obvious health risks, first and foremost through the transmittable diseases that could be spread by scavenging animals. Besides that, while the water used in the Eastern Suburbium, supplied from aquifers

[1340] Alexander (ed.) 1972; *Ceramic Hazards* IS13 2003, 1-2 via www.cheminfonet.org/art/ceramics1.pdf.

[1341] Degryse *et al.* 2003, 276.

[1342] *Ceramic Hazards* IS13 2003, 4-5.

[1343] An energy-consumption model is currently being drawn up for Sagalassos, by Ellen Janssen and Bart Muys of the Department Forestry, Nature and Lanscape at the University of Leuven. One of the discussions centres around the scale of the energy consumption by workshops and whether or not artisanal consumption outranks general household consumption (Janssen *et al.* in prep.).

[1344] During the main occupation period of Sagalassos, the slopes surrounding the site were covered by a mixed needle-leaved forest of *Pinus* (pine), *Cedrus Libani* (cedar) and *Abies Cilicica* (Taurus fir). In addition, there might have been an expansion of oak woodlands, presumably used as grazing grounds for pigs. Pollen data show furthermore that the forests were not depleted at the end of the main occupation phase of the town (Vermoere *et al.* 2003, 171: Dirix 2014, 26-27; Poblome in press a).

[1345] Dirix 2014, 19-22, 91-92, 81-109: these results are based on a large sampling grid, in which the values for the Eastern Suburbium could be compared with the adjacent Elmalı Pınar valley (referred to as 'Gökpınar' in the dissertation).

either high up in the quarter or from undeveloped areas further east, would likely not be affected directly from the waste dumping in the area, the runoff of soiled water could have affected the lands lower in the catchment area of this artisanal quarter. In the case of the Eastern Suburbium, this would especially apply to Çataloluk Pınar and the valley below (the location of present-day Ağlasun).

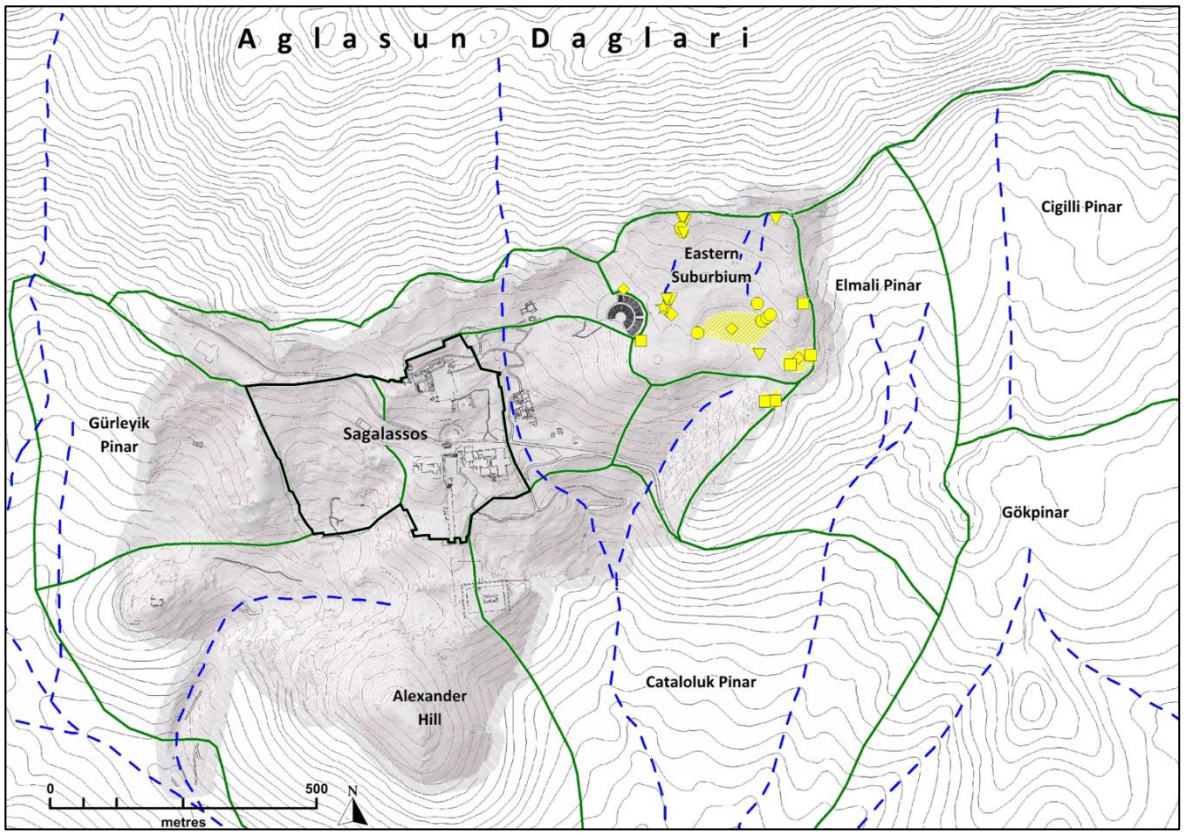


Fig. 11.8. Map of the catchment areas surrounding Sagalassos. See Fig. 11.6 for a detail of the various waste dumps (yellow). The runoff water from the polluted 'industrial' Eastern Suburbium would have accumulated in the Central Depression and further seeped down to Çataloluk Pınar and the Ağlasun valley below.

Finally, one aspect to the geography of the Eastern Suburbium might have raised its own health-related concerns. The unique topographical features of the Central Depression made it possible for clay beds to form at this high altitude, which requires a low energy depositional environment (*i.e.* wet conditions, such as a marsh or lake) at the bottom of the depression in order for the clay to accumulate in layers. Subsequently, the conditions must have been dry enough, at the least by Hellenistic times, for the clay beds to be quarried. It is very likely, however, that the conditions varied greatly between the wet and dry seasons typical for the local climate, with the dry season being the only suitable time for clay extracting. During the wet seasons, water probably still accumulated into the depression, ensuring marshy conditions during at least some parts of the year. The clay mining would only have reinforced this effect. According to Federico Borca, Greeks and Romans perceived the marsh biotope as "*a no-man's land where earth and water are mixed and jumbled; where movement was slippery and unsafe; and where only beasts, barbarians and brigands could feel at ease.*"[1346] Marshes were in ancient times indeed affiliated with 'bad air' and the associated '*miasmata*' (decaying organic matter), '*pestilentia*' and minute creatures – invisible to the eye – that enter the body through the mouth and nose causing serious diseases.[1347] Marshes, fens or boggy and dampish regions in general were regarded as unhealthy places for settlement, as attested by ancient authors as varied as Hippocrates, Plato, Aristotle, Varro, Collumella, Vitruvius, *etc.*[1348] The only times when marshes were referred to as beneficial, was in their possible use as easily defendable borders

[1346] Borca 2000, 74-75.
[1347] Varro *De re rustica* 1.12.2.
[1348] See Borca 2000 for more examples and details on these ancient references.

of a town[1349], which would not have applied on the Sagalassos example. It is not certain whether the inhabitants of Sagalassos held similar objections concerning the presence of a nearby 'bog'; they certainly found a new advantage in the exploitation of the clays for pottery production. However, the wet conditions of the Central Depression might have played its part in the foundation of the city centre at the lower, but steeper mountain slopes to the southwest.

Fears

We are walking into more uncharted territory when trying to reconstruct the mindset of ancient individuals and especially when attempting to generalise them for a whole population. Nevertheless, as put forward in § 11.1.2, the indications are indeed present to suggest that *necropoleis* would have invoked a sense of restraint or even fear among the gods-fearing inhabitants of the Ancient World. The basic idea, externalised in all aspects of the funerary cultures, was that the dead were still present and might interfere with the living. While this might to some extent be a comforting idea in the case of the peaceful passing of a loved-one, it certainly must have been a distressing idea in other occasions. There were many reasons for a deceased person to end up as a restless soul: a 'bad life', a 'bad death', or even improperly executed burial rites (which included the upkeep of the burial site and the continuous execution of funerary ceremonies throughout the years).[1350]

This is most pertinently attested by the primary cremation discovered on the northern terraces of site F, which could in more than one sense be identified as a 'deviant' burial (see § 6.4.1). The administrators of the funerary ceremony apparently went to great lengths in order to provide the deceased with properly executed burial rites, while at the same time preventing the dead from rising from the grave by symbolically pinning the body to the burial by means of a apotropaic ring of defunct nails and by covering the cremation remains with stones as well as a thick layer of lime. The data do not allow for an indisputable explanation for the contemporary ideology behind these diverging acts, but fear for the *revenant* or risk of contagion are likely candidates.

Even more restraint is recommendable when trying to assess contemporary sentiments towards other aspects inherent to 'life'[1351] in the *suburbia*. The above and below mentioned implications that followed from the hypothesised policies affecting the *suburbia* can be considered as negative from a modern point of view, but are those considerations transposable to Antiquity? There are strong justifiable indications that this is indeed the case, with the variety of reasons to evict activities and people from the city centre all appearing to have grown from concerns – whether or not rational – to protect the city centre from their negative influences. This was the case for the waste management, the *necropoleis*, the non-canonic cults, the periodical (livestock) markets, and in many cases as well for large-scale municipal activities and for the club life of the *collegia*. Moreover, while the Eastern Suburbium must have been a bustling area during daytime, in the seasons suitable for artisanal (and commercial) activities[1352], at night and during the winter months, the area must have been most of the time deserted and desolate. Since pottery production at Sagalassos could only be practised in the dryer, warmer months, this meant that a part of the social control within these quarters would evaporate during long periods of the year. Social control at night would even have been limited during the active seasons as well. We can

[1349] Borca 2000, 80-81.

[1350] Tsaliki 2008. See also Allan Kellehear's observations on the management of death: "*the Good, the Bad and the Misunderstood*" (Kellehear 2007, 163-166). Not everyone in Antiquity was convinced that burial rites played their part in appeasing the deceasd. The 1st century BC philosopher Titus Lucretius Carus, for example, wrote that it did not matter whether a body was inhumed, cremated, embalmed or exposed. But it is safe to assume, however, that most people would indeed have cared about the careful disposition of their own body or that of their loved ones (Hope 2009, 80).

[1351] We use 'life' here between quotation marks, because there are no indications that the Eastern Suburbium accommodated for permanent residence, in contrast to the adjacent Eastern Residential Quarter. In fact, it is very likely that the area was almost completely abandoned after nightfall.

[1352] The climate of the region comprising Sagalassos would not have allowed for pottery making during the long winters, when the wetness, cloudiness and coldness would have prevented or at least hampered drying and firing the pottery. A prolonged drying time would also increase the risk of breakage (Arnold 1988, 66, 70-75, 85, 103-104, 123-124). It is likely that other artisanal production came to a standstill as well (Poblome in press b), while livestock markets were also an activity excluded from the winter months, when the animals were kept in their stalls.

imagine that there might have been a 'janitor' residing at the site G complex or that an apprentice would be expected to keep watch over a workshop. We also know about the use of *e.g.* the PQ 2 *schola* for evening activities that probably turned nocturnal. But there are no clear indications for permanent residential presence within this quarter.[1353] Additionally, the chaotic layout of the quarter must also have hampered the maintenance of control over the outskirts of the city, contributing to a general sense of lawlessness at times when the suburbium was abandoned.

As mentioned in § 11.1.2 above, also artisanal activities, especially the ones involving fire such as kilns, could give rise to fear, or in the least a sense of anxiety, among the people working in the Eastern Suburbium. This fear, directed both towards their own well-being as well as towards the integrity of their products, was apparently countered with magic spells and amulets, as can be understood from ancient textual and iconographical evidence in which Hermes, among others, played an important part. In the PQ 1 east slope workshops a bronze Hermes statuette (**Fig. 11.9**) was encountered in 2001 in the central room, apparently as part of the apparatus of the Roman Imperial pottery atelier. The cultic implications regarding the presence of this statuette can be understood in a variety of ways; apart from possible apotropaic qualities, the close association of Hermes with artisans can obviously also be understood from his position as the god of trade.

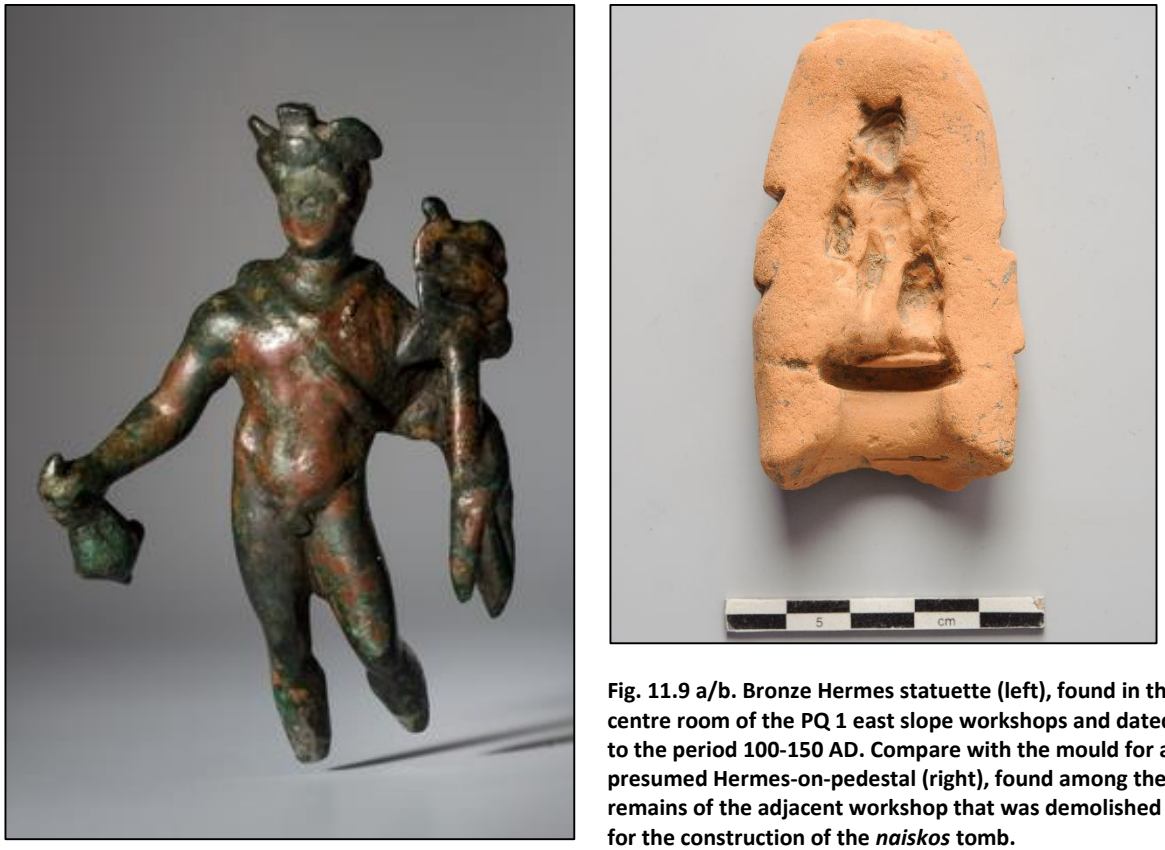


Fig. 11.9 a/b. Bronze Hermes statuette (left), found in the centre room of the PQ 1 east slope workshops and dated to the period 100-150 AD. Compare with the mould for a presumed Hermes-on-pedestal (right), found among the remains of the adjacent workshop that was demolished for the construction of the *naiskos* tomb.

The *Καμινος*, a pseudo-Homeric Poem for the Potters, mentions five mischievous, anthropomorphised forces that can cause havoc throughout the potting processes – *i.e.* Syntrips ('the smasher'), Smaragos ('the crasher'), Salaktes ('the destroyer'), Omodamos ('the conqueror of the raw material') and Asbestos ('the unquenchable/inextinguishable'). John Papadopoulos has identified these demons in depictions on Greek pottery[1354], some of which show great similarities with the mythical *kobaloi* ('cobolts/goblins'): the impudent,

[1353] It needs to be kept in mind that residential infrastructure, especially outside of the rigid framework imposed *intra muros*, could take many forms. The most destitute housing could have consisted of mere huts, of which the remains would have left few or hard to recognise traces in the archaeological record. However, the densely built-up texture within the Eastern Suburbium is rather well-known and suggests that there is little space available for any additional residential infrastructure.
[1354] Papadopoulos 2003, 191-196.

thieving and idle gnome-dwarfs of a phallic nature. Several finds within and close to the Eastern Suburbium seem to suggest that such a tradition of depicting goblins (possibly used as amulets?) existed at Sagalassos as well (**Fig. 11.10**). However, the protective properties of this type of charms were obviously not exclusive to suburban environments; magic would have permeated to all levels of life *and* dead in ancient times and apotropaic images could have been worn on the body, could be found in funerary contexts or could, in fact, adorn any public or private building, construction or item. Grotesques in particular were popular throughout the Eastern Mediterranean in ancient times, and Pisidia was no exception.[1355]

Fig. 11.10. Terracotta grotesques from various sites within Sagalassos, depicting anthropomorphic beings with heavily exaggerated facial and bodily features. Left: terracotta head found behind the Library in 1994; middle: terracotta figurine from an uncertain find location within Sagalassos (Burdur Museum collection); right: terracotta head found within a dump at site PQ 2 in 2014. The example on the left was originally described by the excavators as sporting exaggerated exotic racial features, but the similarities with the other examples (a general evil look, bald, piercing eyes and heavily pronounced lips, eyebrows and nose) rather suggest the representation of either a supernatural being, such as the *kobalos* known from ancient Greek mythology, or a theatrical genre figure, such as the *parasitos* (see also Fig. 11.11).

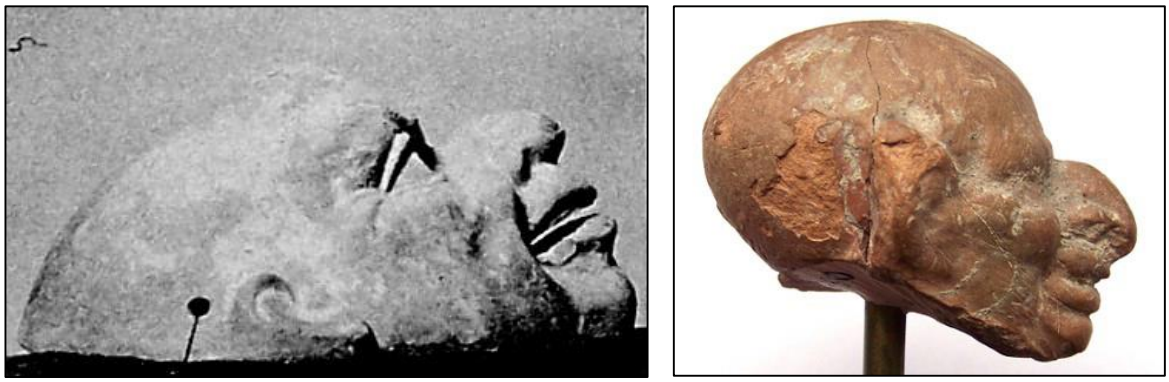


Fig. 11.11. Terracotta grotesques. Left: mask of the 'Parasite' character of the New Comedy (provenance unknown); right: head fragment of a terracotta figurine with similar features (Budapest Museum of Fine Arts, inv. nr. T.390). From Süvegh 2014, 152 Fig. 17.

[1355] Talloen 2015, 341-342.

Disruptions and nuisances

The Theatre immediately adjoining site G has not been included in this study, since its positioning into the slope west of the quarter, facing the city centre, makes it part of the Eastern Residential Quarter rather than the Eastern Suburbium. Nevertheless, it also appears to make part of an uninterrupted zone of public and communal buildings covering the southwestern part of the Eastern Suburbium. The type of activities that have been suggested to take place here – *i.e.* large gatherings, (livestock) markets, banquets, festivities, *etc.* – might at times have caused serious disruptions to the day-to-day occupations at the Eastern Suburbium and would have been associable with a variety of nuisances (crowds, smells, noise, *etc.*). Nuisances would of course also have been caused by the large scale of the artisanal 'industry' as well, with smoke from many kilns filling the air.

Other forms of disruption might have sprung from the communal events organised in venues like the PQ 2 *schola*. Contemporary written sources suggest that banquets were generally accompanied by generous quantities of wine, leading to potential outbursts of boisterous behaviour (see § 11.1.2.4). The recurrent meals certainly accounted for large quantities of waste and we were able to partially reconstruct at least one, final banquet that appears to have left quite an impression (see § 7.5.2.2). Similarly, the funerary feasts within the various burial plots on the site also left their marks on the terrain, due to the apparent custom to smash the used tableware to smithereens and bury the remainders. It is not hard to imagine the festive atmosphere within the *necropoleis* of Sagalassos during festivals held in honor of family ancestors (the local equivalent of the *Parentalia*).

Dangers

The risk factor (whether or not acknowledged) resulting from the presence of multiple waste dumps has already been described in the previous paragraphs. An additional risk involved the presence of many fire-related activities within a relatively limited space. While kiln-related workshop activities have on many occasions been attested within city centres, larger clusters of workshops were mainly found on the outskirts of the built-up area (see § 11.1.2.5). The artisanal quarter at Sagalassos, which constituted mainly of pottery workshops concentrated in the centre of the Eastern Suburbium, follows this pattern. Excavations and geophysical surveys have revealed the presence of an estimated 135-140 kiln locations[1356] (see § 6.3.1 and § 8.3.3), which represent *c.* 550 years of pottery production within the study area. The number of known kiln locations is certainly a conservative estimation, as we should imagine that several dozens of kilns might have been functioning simultaneously and that the optimal lifespan of a kiln has been estimated at one generation (see § 8.3.3). All kilns that have been uncovered until now at the site of Sagalassos were either pottery kilns, lime kilns) or furnaces.[1357] The abundance of fires, which could be lit on a daily basis, must have constituted a realistic threat to the safety of the immediate surroundings.

In addition, funeral pyres presented bigger fire hazards, since they consisted of very large, exposed fires. On the other hand, the events of cremation were obviously less frequent than the day-to-day activities involved with the large-scale pottery production. Until now, one atypical funeral pyre[1358] has been uncovered in the Eastern Suburbium, located on one of the highest terraces within the upper trench of site F (see & 6.4.1.2). The pyre was

[1356] We deliberately mention 'kiln locations' in stead of 'kilns', because although kilns had a relatively short lifespan (see § 8.3.3), they were likely to be rebuilt on the same spot over several generations. In Sagalassos several kiln locations appear to have served easily over a century.

[1357] Pottery kilns have been excavated in the lower trench of site F (where only the imprint of the heath of the combustion chamber was preserved in the subsoil), at the PQ 1 east slope workshops and at the PQ coroplast workshops and at site LE (east of the Library in the Eastern Residential Quarter of the city). Several kilns within the final phase of use of the coroplast workshops were adapted to burn marble/limestone into lime (post-abandonment lime kilns have also been uncovered in the eastern exedra of the large Frigidarium 1 of the Imperial Baths of Saglassos). Within the same coroplast trenches, two of the smallest kilns have been identified as bread ovens in stead of pottery kilns. A small, badly preserved post-occupational kitchen oven has also been encountered in 2014 within the PQ 2 trenches, while a perfectly preserved 'cooking island' has been uncovered at site LE in the same year). See the related paragraphs in Part 2 for more details on each of these features.

[1358] Atypical, because the place of the pyre was also the place of the burial, without the remains collapsing and being buried in a previously dug pit, as is customary for a *bustum* burial. Since there was no permanent infrastructure, the feature also does not define as an *ustrinum* (see a.o. Noy 2000, esp. 186; Angelucci 2008, 2624-2625).

located at a distance of 575 m along the road (480 m as the crow flies) from the nearest presumed stretch of the city wall and 650 m along the road (540 m as the crow flies) from the Upper Agora. The 'general prohibition' on funeral pyres within a mile from the city centres was apparently not a strictly followed rule or was not enforced consistently throughout the Empire. Small towns could lack the means to follow up on idealised prescriptions designed for larger conglomerations or lack the urgencies for its strict implication. In any case, the location of the pyre on one of the highest terraces of the Eastern Suburbium, with few adjacent features that could catch fire and with the prevailing winds blowing the smoke and sparks upslope, would have made it an ideal location for an *ustrinum* (permanent cremation floor). This, however, does not mean that funeral pyres were exclusive to the higher terraces of the Eastern Necropolis. It is more probable that every large burial compound, where at least part of the burials consisted of cremations, featured its own *ustrinum*.[1359]

Fires can also be associated with altars in cultic or funerary contexts. Veli Köse, in his study of the *necropoleis* of Sagalassos, identified several monumental tombs in the Eastern Suburbium which had provisions for altars[1360], even though no actual examples have been encountered *in situ*.[1361] The ashlar structure west of the PQ 2 building, which was constructed simultaneously and parallel to the main building, might have been a monumental altar, but too little has been exposed to confirm or refute this suggestion. It is likely, again, that larger burial plots were equipped with their own altar(s), even though neither the partially excavated burial compounds of PQ 4 (see § 6.4.2 and § 8.4.4) and PQ 3 (see § 7.4.3) nor the *temenos* surrounding the *naiskos* tomb (see § 7.4.2) yielded altars.

In the more simple burial plots, which would contain little to no permanent internal provisions, an open fire pit would suffice for communal funerary activities. A possible fire pit has been documented at the upper trench of site F (see § 6.4.1.1), in close association with the remains of several funerary meals (see § 6.4.4). On a larger scale, the PQ 2 *schola*, after its alterations to serve for communal dining, must have been provisioned with the means to cook meals on a large scale, either in an annex room or in the open air adjacent to the main building.

The dangers of a rapidly spreading wildfire were clearly considerable in the densely and chaotically built-up Eastern Suburbium, where the sparse open spaces were probably occupied with gardens and trees. The threat for the fire to spread towards the city centre, on the other hand, was much smaller or in any case relatively easy to manage. There is only a narrow built-up corridor that connects the Eastern Suburbium with the Eastern Residential Quarter and the fire is less likely to spread downhill.[1362] These environmental factors might certainly have played part in accommodating the town's main artisanal quarter in this specific part of the *suburbia*. Indeed, even after pottery production units were occupying spaces within the Eastern Residential Quarter as well, their position above the city centre would still be relatively safe.

There are many other risks involved with the activities taking place at the Eastern Suburbium, *e.g.* the quarrying activities, construction activities, but these would obviously not be unique to this quarter alone.

[1359] Hope 2007, 113.

[1360] Köse 2005, 118-120, 227-228.

[1361] At least one funerary altar has been recognised during excavatations, as it was found in an erosional layer topping the PQ 1 east slope workshop remains, close to the *temenos* wall of the adjacent *naiskos* tomb (PQ 1 2002 internal excavation report by Jeroen Poblome).

[1362] "*Unlike humans, fires usually travel uphill much faster than downhill. Fires travel in the direction of the ambient wind, which usually flows uphill.* […] *Additionally, the fire is able to preheat the fuel further up the hill because the smoke and heat are rising in that direction*" (Kevin Bonsor 1998-2015, *How Wildfires work*, science.howstuffworks.com).

11.2.3 Opportunities

In the above paragraphs we have weighed the case study of the Eastern Suburbium *proasteion* against the negative aspects associated with a suburban environment, as exposed in § 11.1.2. A similar attempt should be made for the possible opportunities that the region offered. In § 11.1.3 we gave an overview of potentially positive aspects of a general suburban siting, which could be grouped into opportunities associated with relaxation and display, opportunities arising from the availability of space and economic advantages.

A *locus amoenus*?

The Eastern Suburbium of Sagalassos developed in Roman Imperial times into a densely built-up part of the *continentia aedificia*, and seems to have offered little opportunity for relaxation and leisure. On a seasonal basis, the smoke coming from the many kilns would have made such endeavours futile in the first place. We have less information on the periods preceding (Classical-Hellenistic period) and following (after the second half of the 6th century AD) the dense occupation of the quarter, but it is more likely that during those periods the area would have primarily served for agriculture, horticulture and/or pastoralism and not for recreation. During Roman Imperial and Late Roman times, the large complex at site G would be the only area that could have been intended for recreational purposes (a *gymnasion*?), but the case for it being used for more practical matters (a *campus*?) seems to be more convincing, even though this hypothesis is mainly based on circumstantial evidence (see § 6.5.1).

There is plenty of public infrastructure in Sagalassos that could cater for several forms of recreation and relaxation, such as bathing facilities and the Odeion in the city centre, and the suburban Stadion and Theatre. Even if there would have been a lack of planned 'green' areas within the (sub)urban texture of Sagalassos, the surrounding mountainous topography largely defined the limits of the developable area, meaning that unspoilt natural features were easily accessible in the immediate surroundings of the city. In the case of the Eastern Suburbium, funerary gardens within the burial plots might have created some little havens of retreat, but their limited size and the fragmented character of the *necropoleis* imply that they could never have constituted a uninterrupted 'green belt'.

There is more evidence for monumental display in the Eastern Suburbium and surrounding slopes, mainly due to the presence of various conspicuous tombs. Monumentality in funerary memorials in this *proasteion* would go back at least as far as Late Hellenistic times, which is proven by the discovery of the ashlar Π-shaped monument at site F (see § 5.4.4). From the 2nd century AD onwards more burials would show some form of ostentation in their tomb design, whether in the form of a relatively simple limestone *sarcophagus* or in the form of a more impressive tomb within a large burial plot.[1363] Moreover, people with less means could in some cases probably revert to *collegia funeratica* to ensure an appropriate burial inside a more or less monumental burial compound (the PQ 4 tomb complex might be an example of such a compound, even though it is too early to exclude the possibility that the site served as a familial tomb). Apart from smaller burial monuments, such as *sarcophagi*, *chamosoria* and *arcosolia*, the Eastern Suburbium also exhibits various types of larger tombs: a.o. *aedicula* tombs, temple tombs (*e.g.* the *naiskos* tomb at site PQ 1) and a possibly funerary column (see § 7.4 and § 7.5.5 for the many tomb forms on display in the Eastern Suburbium during Roman Imperial times). Not only the grandeur of the tomb, but also its location would define its 'display value', which was most effectively achieved by erecting tombs along a major thoroughfare, on slopes overlooking the main roads and at specific vantage points visible from afar. The characteristic bowl-shaped topography of the Eastern Suburbium catered for all three of these options, as most of the slopes surrounding the *proasteion* faced inwards (see also the discussion on the 'Competition for Space' in § 7.4.10).

It is justified to question why the Eastern Suburbium would have been a suitable attraction pole for monumental display. Even though the road leading up through Gökpınar and Elmalı Pınar might have been the main

[1363] Von Hesberg 1987, 42-43; Von Hesberg 1992, 13-18; Köse 2005a, 111-112.

thoroughfare to the city for wheeled traffic, it certainly was not the main route into town. Only people with business in the Eastern Suburbium itself would endure the longer road and additional vertical meters (more than 100 m in comparison with the lower parts of the city centre). There were alternative routes into the city centre passing through the southern and western *necropoleis* of the city, and it should not be doubted that these were by far the most travelled roads for pedestrians. It is probably not a coincidence that the Southern Necropolis is the oldest and most extensive *necropolis* of the city[1364], as it grew along the major roads leading into the city. **Fig. 11.12** shows the relationship between the street network around Sagalassos and the *necropoleis*, with the most prominent monuments highlighted. The Southern Necropolis actually extents at least 500 m more towards the south, where there is another major monument (not represented on the map). It is clear from the map that the monumental tombs in the southern burial grounds, from their high locations, would have attracted the attention from passers-by. The same can be proposed for the monumental tomb in the Western Necropolis (at an intersection of roads leading into the city) and in the Northern Necropolis (which must have been visible even from parts of the city centre). The Eastern Necropolis, however, was not visible from the city centre and eastern roads would not have drawn as many regular visitors. Nonetheless, the amount of monumental tombs (5) exceeds those of the Northern and Western Necro*poleis* (1 each) and is barely lower than the ones from the Southern Necropolis (6)[1365], and that is without taking in account the PQ 4 burial compound. The similarities in the topographical conditions make it improbable that the discrepancy would have been caused by discriminative post-occupational processes (even if we have to account for possibly many more monumental tombs in each of the burial grounds). We hypothesise that the 'display value' of the Eastern Suburbium would have been increased because of recurrent activities (*e.g.* festivals, *panegyreis*, *etc.*) that would have drawn in large crowds from the wider region and for which the complex at site G would have been the most plausible location.

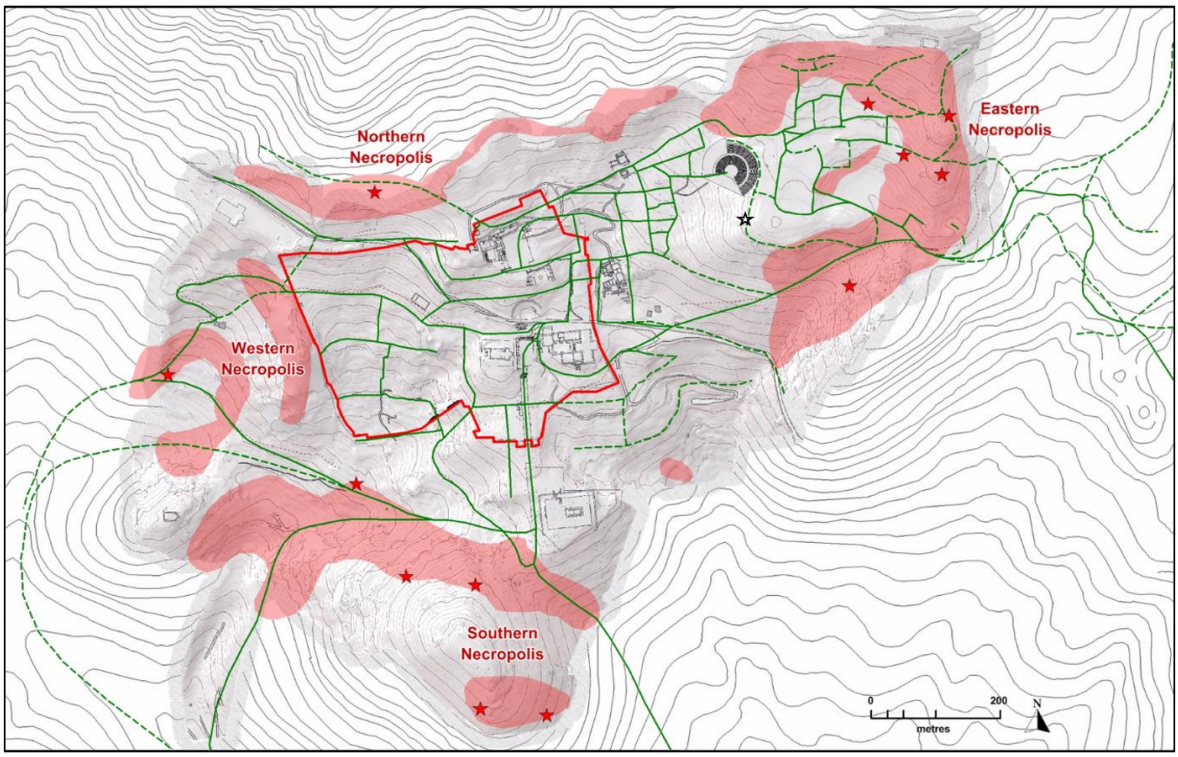


Fig. 11.12. Map showing the relationship between the street network and the *necropoleis* of Sagalassos. The *necropoleis* are indicated in shaded red, the streets in green (dashed lines represent uncertain reconstructions). The open star shows the location of the monumental free-standing column. The red stars highlight the most prominent funerary monuments recorded by Veli Köse (see also Footnote 1319). Based upon Köse 2005a, 132 Abb. 27.

[1364] Köse 2005a, 18-20.

[1365] Architectural surveys of the Eastern Suburbium by Johan Claeys have actually revealed several more possible monumental tombs (see § 7.4.4 and § 7.4.6). However, in order to make mutual comparison between the different *necropoleis* possible, we refer only to the tombs recorded by Veli Köse (2005a, 111-133).

Apart from the funerary architecture, the Eastern Suburbium also comprised several structures of a more monumental nature, which take up the southwestern quarter of the *proasteion*. While these structures most likely served a (semi-)public purpose, they did not sport the ornamental splendour of the public infrastructure in the city centre. The only exception is the largest known free-standing column of the city, located on the slope south of the Theatre, at the edge of the *proasteion*. Since this was the only monument that was visible from the Eastern Suburbium as well as from the city centre (see § 7.5.5), it should come as no surprise that its aesthetical qualities are accordingly. Its association with the Eastern Suburbium might in fact have been coincidental, as it appears that the contractors profited from a suitable rocky outcrop in the immediate vicinity of the Theatre. Its proximity to the Theatre as well as to the *necropoleis* induced identifications as either an honorific column, possibly in dedication to (the main) financier of the Theatre, or as a funerary monument.

The extension of the Eastern Necropolis is clearly linked with the local topography and with the extension of the Eastern Suburbium itself. Very few funerary remains have been recorded east of the ridge that separates the *proasteion* from the Elmalı Pınar valley. This might have been instigated from a sense of security or might be understood as a boundary marker between the 'built-up' *suburbium* and the surrounding 'rural' *suburbium*. The explanation probably combined both factors, which were undoubtedly mutually interlinked. Nevertheless, one vertical rock face in Elmalı Pınar that resulted from quarry activities, appears to have been used as a 'billboard' for funerary inscriptions or reliefs (see § 6.2.1). Further down the road, the small *necropolis* belonging to the Gökpınar farm was located at the western extremity of the site, where they would have been visible from the passing road. Similarly, an *arcosolium* and *chamosorion* carved into a large boulder lying in a field along the Kirazlı Dere and immediately next to the road leading northeast out of Ağlasun's Sakarca Quarter (**Fig. 7.50**), suggest that the current road follows an ancient route. The relationship between the road network and the Eastern Necro*poleis* is best exemplified by the road leading from the Lower City to the Central Depression, where both adjacent slopes facing the road were too steep and rocky for permanent occupation, but suitable for the funerary display of mainly *arcosolia* and *sarcophagi*. The situation in the Eastern Suburbium itself was more complex, and we notice how the burial monuments are mainly profiting from the surrounding slopes of both the Central Depression in particular and the Eastern Suburbium in general. At the fringes of these zones the *necropolis* would have to compete with other activities, as has been observed at sites F (see § 6.3.4) and PQ 1 (see § 7.4.2).

Availability of space, land prices and economic opportunities

The topic of the 'competition for space' brings us seamlessly to the next possible advantageous point of ancient *suburbia* and *proasteia*: the potential of space and subsequent lower land prices. However, Sagalassos was intentionally located on a series of easily defendable terraces, surrounded by steeper slopes (**Fig. 3.1**). This would imply that the land available for occupation in the immediate surroundings of the town was fairly limited. Indeed, the development of the urban texture clearly shows how the city sprawl was confined to – and to a large extent determined by – the topographical restrictions. Since the different activities taking place in extramural areas were defined by a different set of interests, the suburban area became subdivided into several functionally distinguishable areas. The new residential areas would develop immediately south and east of the city walls and the *necropoleis* would mainly stretch over slopes that were otherwise uninhabitable and less defensible. The Eastern Suburbium takes in a unique position, since its topographical features made it particularly suitable for intensive development, even containing the largest continuous flat terrain of the whole city (site G).[1366] It is therefore not a surprise that both the (main) artisanal quarter and large-scale suburban public architecture would find its way to this area from Early Roman Imperial times onwards.

The lack of alternative land in the immediate surroundings of the city would also signify that the available space of the Eastern Suburbium would eventually become fully occupied – most likely by the end of the 1st century AD – and would undoubtedly have had its influence on land prices as well. The infrastructural density that would

[1366] The flat area around site G measures more than 1 ha (10,000 m²). In comparison: the Upper Agora measures *c.* 2,370 m². Even though the buildings surrounding the UA successfully followed the same orientation, this could only be achieved on terraces with considerable height differences on all sides.

characterise the *proasteion* as part of the *continentia aedificia* would barely differ from that of the city centre or residential quarters. This makes the Eastern Suburbium clearly stand out from other forms of suburban development – or the lack thereof – around Sagalassos: the western, southern and northern peripheries of the city, which do not show the same diversity of activities, and the land occupied by the suburban farms. We do not have direct evidence for land prices in the Eastern Suburbium (or elsewhere in Sagalassos), but the principle of supply and demand would have made the prices considerable. It is probably not a coincidence that the larger burial plots either contain lavish monuments (*e.g.* the PQ 1 *naiskos* tomb) or seem to consist of large compounds financed by a well-off instance or individual (*e.g.* the PQ 4 enclosure). Likewise, the way in which the artisanal workshops are nucleated and apparently centrally organised raises questions on the ownership of those plots of land (see § 8.3.2).

We have already suggested a variety of reasons for the siting of the potters' quarter in the Eastern Suburbium of Sagalassos: legislation and/or urbanistic prescriptions, avoidance of nuisances and dangers for the town residents, presence of the main target market, protection, landownership, opportunities for upscaling and expansion, ease of access for the provision of necessary resources and the proximity to a permanent water source and raw materials. We should furthermore add that the suitable space for such a large-scale set-up was apparently very limited and only a siting near the main raw clay source (in the Çanaklı valley) might have been a valid alternative. Since most of the above-mentioned factors also apply for a Çanaklı scenario, we should imagine that the reasons that tipped the balance in favour of an Eastern Suburbium implantation should be sought in landownership – and thus possible elite involvement in the decision process – or by the proximity of the city as the main market and as a protective factor. In fact, not only the land, but also the workshops and their infrastructure might have been lettable, which would have constituted an extra source of income for the landowners. Conversely, we should also allow for the possibility of communal ownership of the Çanaklı clay beds and thus a potential larger involvement of a potters' association (*collegium*?) in the organisation of the work.

We can safely state that the available space for development in the Eastern Suburbium was considerable, but also inevitably limited because of the surrounding topography and the lack of suitable alternatives elsewhere in the immediate surrounding of Sagalassos. The unique qualities of this *proasteion* would therefore probably have led to relatively high land prices. The observation that the artisanal quarter constituted of nucleated workshops without domestic attachments might be an extra indication for this hypothesis, since the available land would thus have been used as effectively as possible. The situation might not have been all too different before and after the main period of artisanal activities (see also above), since the Eastern Suburbium would probably have comprised the most suitable land for agri- and horticulture in the periphery of the city.

Probably the most sought for land would have been the flat terrain in the southwestern quarter of the Eastern Suburbium and it is probably not a coincidence that this land was eventually taken up by a series of structures that imply a centrally planned concept. The monumentality of these structures is not of the same order as the ashlar and brick public buildings in the city centre, but the regularity in layout, technical quality in execution and specificities of the architecture makes them distinguishable from both the artisanal and funerary presence in the *proasteion*. The archaeological data show that (most of) these structures were erected in the second half of the 1st century AD, while the funerary and artisanal development in the same area was already fully underway. The observation that there are no indications for earlier permanent human interventions might be explained by land ownership (the grounds could have been more valuable as agricultural land), but it is also possible that the land already served the same purpose (*e.g.* as a ground for markets), but would only later become architecturally externalised into an actual complex.

The identification of site G as a multi-purpose complex suitable for mass events remains hypothetical, but the presence of such infrastructure would also have benefited the artisanal quarter itself. Mass events, whether they were festivals, markets or likely a combination of both, would have drawn in possible costumers far beyond their normal reach and the existing infrastructure would have provided opportunities to stall and store their merchandise. As far as the excavations have established, the workshops themselves did not possess amenities

to sell (and even store?) their products in an efficient manner. We can obviously imagine that shops in the city centre could have catered for the needs of the potters and other artisans in marketing their wares on a local scale, but the festivals and *panegyreis*, which would have attracted a disproportionately larger clientele, might have called for exceptional measures.

This also implies that once the monumental quarter of the *proasteion* was abandoned (the site PQ 2 *schola* already in the second half of the 3rd century, the site G complex in the 4th century AD), the Eastern Suburbium would lose a major attraction pole. The observation that these vacant and suitable plots were never intensively reoccupied seems to suggest that the competition for space in the *proasteion* from Late Roman times onwards was not as stringent anymore as during Roman Imperial times. From the later 3rd century AD onwards, there appears to be no monumental investment in the Eastern Suburbium till the construction of the PQ 5 church in the early 6th century AD. The lack of new monumental funerary infrastructure should of course also be interpreted in the light of changes in burial culture. The usurpation of older monumental tombs (*e.g.* the *naiskos* tomb at site PQ 1 and the family tombs at sites D and F) can be understood both as a setback in the area's perceived 'display value' – no investment in new funerary infrastructure – as well as a continued interest in the burial grounds of the *proasteion*. The evidence seems to support the former hypothesis. By the time the PQ 5 church was being constructed, the Eastern Suburbium constituted mainly of workshops, vacant lands covered partially by waste dumps and dilapidated buildings and monuments. Evidence for the (partial) dismantling of buildings before the 6th century AD has been encountered at almost all sites: the Hellenistisc Π-shaped monument at site F, the complex at site G, the large rectangular building southeast of the PQ coroplast workshops, the *naiskos* tomb at site PQ 1, the *schola* at site PQ 2, the large brick-built tomb at site PQ 3 and the interior wall of the PQ 4 compound.

11.2.4 Conclusions

The above paragraphs point out that the Eastern Suburbium of Sagalassos were characterised by most of the possible issues associated with ancient *suburbia*, while it only to a limited extent profited from the possible opportunities linked with a suburban setting. As was the case in many ancient towns and cities, the Eastern Suburbium appears to have served as a receptacle for activities that were confined to the periphery of the city for a variety of reasons, at least some of which having at its core the idea of keeping the sacred centre of the city both spiritually and physically 'clean'. It is clear that the area was in many ways an ideal location for the development of an artisanal quarter from Early Roman Imperial times onwards, where it came to share the area with the already existing Eastern Necropolis. The monumental quarter in the southwestern part of the *proasteion* might have been an impetus to the area's general appeal between the 2nd and 4th century AD, as this period also coincides with the construction of most of the monumental funerary architecture.

A variety of elements might have contributed to the creation of a negative image of the *proasteion*. First of all, the *suburbia* of Sagalassos overlap to a large extent with the *necropoleis*, which would remain – apart from some exceptional circumstances (the *heroa*?) – an exclusively suburban concern.[1367] *Necropoleis* were on the one hand considered as a form of religious pollution, but were also valued as places for remembering and honouring the ancestors and were valued as a fitting showcase for monumental display. Secondly, the Eastern Suburbium in particular was the location where most of the artisanal activities with a high risk potential (kilns) would have taken place in Roman times. This has clearly been attested for the intensive production of Sagalassos Red Slip Ware, which lasted from the 1st till the first half of the 6th century AD[1368], and might also have held true for other obnoxious or dangerous artisanal activities. Thirdly, the Eastern Suburbium would not only produce huge amounts of production waste, which were mainly discarded or repurposed in the immediate surroundings (within the quarter), but also appears to have served as one of the choice locations for the dump of domestic waste, offal, animal cadavers and excrements. There are many indications that these dumps, also the ones including organic waste, lay exposed for long stretches of time, prior to being buried by additional refuse or by erosional layers. Fourthly, several communal and cultic activities were located in the Eastern Suburbium as well, even though it is not clear if their residing in a suburban context was imposed by force or resulted from choice. *Collegia*, for example, could have considered it advantageous to build their *schola* close to their burial grounds and cultic buildings might have been located near to meaningful natural features.[1369] On the other hand, *collegia* might also have been condemned to the *suburbia* because of their poor reputation and (exotic) cults because of their non-canonical nature. Fifthly, it has been suggested that the site G complex infrastructure might have served as a periodic market, a.o. for livestock fairs. While this was not necessarily considered as a negative aspect of the *suburbium*, the alternative of it taking place in a city centre was most probably inconceivable not only because of practical issues but also because of the associated nuisances. Finally, the overall properties of this

[1367] At the earliest from Early Byzantine times onwards, under the influence of Christianity, 'churchyard' cemeteries might have appeared in the city centre of Sagalassos. The precinct of the former Apollo Klarios Temple, west of the Lower Agora, served as a churchyard in Middle Byzantine times (see the 2005 preliminary excavation report by Peter Talloen in the *XXVIII. Kazı Sonuçları Toplantısı* and the 2006 preliminary excavation reports by Ine Jacobs and Koen Demarsin in the *XXX. Kazı Sonuçları Toplantısı*).

[1368] The Hellenistic predecessor of this tableware was most probably produced at the location where later the Odeion would be built (Poblome *et al.* 2013b). Possibly from Late Roman times onwards, the demarcation of a distinguishable potters' quarter became less rigorous, with workshops appearing in the Eastern Residential Quarter as well. East of the Library, for example, a monumental public building was subdivided into several new residential and artisanal units, among which a coroplast workshop functioning throughout the 5th century AD (Poblome *et al.* accepted). From the second half of the 6th century AD onwards, there was still almost a century of SRSW production in Sagalassos, but no evidence for this final phase of production has been encountered in the Eastern Suburbium (or elsewhere). It has been suggested that rural production sites could have continued the tradition, not unlike the Late Roman D wares near late antique Pednelissos. Rural pottery production was not new to the region of Sagalassos, since other functional types of pottery (*e.g.* the cooking wares and *amphorae* in the local Fabric 4) were most likely the output of rural workshops throughout history (Poblome in press a; Neyt *et al.* 2012).

[1369] See for example the Rock Sanctuary, partially excavated in 2014 and 2015, located at the convergence of Elmalı Pınar and Çataloluk Pınar and the possible Spring Sanctuary immediately to the northeast of the Eastern Suburbium.

suburban quarter – with its narrow, winding and unpaved streets, structures and gardens in various states of dilapidation, vermin and its desolation after nightfall – would have contributed to a general sense of forsakenness once the area was depleted of its labourers and communities.

These negative factors are not fully compensated by the possible positive aspects that came with a suburban setting. From the 1st century AD onwards the Eastern Suburbium would have been incorporated into the continuously built-up area of the city, despite the fact that it was geographically isolated. This would imply that this *proasteion* could most probably not have served as an elegant retreat. Especially during the productive seasons the area would have been bustling with activity and the air would have been unsuitable for recreational purposes. In sharp contrast, the area would have been eerily deserted at night. Its location at a plateau above the city, but out of view, would furthermore decrease the potential of the area for display and status. This seems to be confirmed by the present (semi-)public infrastructure, which lacks the monumentality and ornamental grandeur of the public buildings in the centre, the only exception being the monumental free-standing column on the western edge of the *proasteion* (not coincidentally in plain sight from the city centre). The funerary culture of the Eastern Suburbium, however, does not follow this assumed logic. In fact, the Eastern Necropolis appears to comprise a far more considerable number of monumental tombs than the Western and Northern Necro*poleis*, even though the latter ones appear to boast a larger potential for visual display. Since the presence of the artisanal quarter seems hardly sufficient to account for this discrepancy, we look towards the monumental quarter in the southwest of the Eastern Suburbium, and its suggested associated functionalities, for an explanation. If the site G complex indeed could have catered for mass events on a regular basis, this would have drawn in crowds to the Eastern Suburbium that would have no dealings inside this part of the city otherwise.

It certainly needs to be added, as has been suggested in the above paragraphs, that several of these features, activities and purposes once unique to the *suburbia* of Sagalassos, started more and more to encroach upon the city centre from Late Roman times onwards (see § 10.3). Large venues in the town were abandoned in order to serve as refuse dumps (*e.g.* the space underneath the northwestern tepidarium of the Imperial Baths), artisanal activities have been attested in the Eastern Residential Quarter and along both *agorai* and Christianity would eventually (re)introduce intramural burials. This dilution of the once rather rigorous divide between an urban and suburban texture was a gradual process, imposed possibly by external forces (crises, natural disasters, downsizing, *etc.*) but most probably also by a changing mindset for the inhabitants of ancient Sagalassos with regards to both their *suburbia* and their sacral city centre.

GENERAL CONCLUSIONS

Introduction

The Eastern Suburbium of Sagalassos has been rightfully identified as a distinguishable entity within the urban texture of Sagalassos, which justifies its selection as the topic for a doctoral dissertation. Even if 'distinguishable' does not mean 'isolated' – as the area clearly interacts with and depends upon the adjacent areas – many features of the quarter make it stand apart from the rest of the city and territory of Sagalassos. The Eastern Suburbium is topographically confined to a plateau to the northeast of the city centre, located at a higher level (the heart of the quarter is located between 60 and 70 m above the Upper Agora). Even though its location is very near to the town and the Eastern Suburbium formed part of the continuously built-up sprawl east of the walls, there is no visual link between the Eastern Suburbium and the other densely occupied parts of the city. Likewise, the slopes east and south of the quarter prevented a visual connection with the wider suburban development beyond (*e.g.* Elmalı Pınar to the east and the southern stretches of the Eastern Necropolis to the south). These physical borders appear to have interacted with other types of legal, social and religious boundaries, as its topographical setting induced the development of activities, features and buildings that for a variety of reasons were located in the urban periphery.

The subdivision of (sub)urban space into distinguishable entities not only makes sense from a modern, scholarly point of view; these different 'levels of urbanisation' would also have been perceived as such by the contemporary inhabitants of the city. The ancient suburban periphery, for example, is not an anachronistic modern inventon. Ancient sources recognise this type of suburban development, which is often referred to as '*suburbium*' (mainly in the Latin West) or '*proasteion*' (mainly in the Greek East). There are nevertheless complications in the use of both terms, since they are not only used for the urban sprawl in the immediate periphery of the city, but also for the wider suburban *Hinterland* characterised by (elite) estates. These semantic similarities make both terms at least functionally interchangeable. We believe that the designation 'Eastern Suburbium', when used as a toponym, is specific enough to differentiate this quarter from the 'wider' *suburbia* surrounding Sagalassos, while the quarter is historically and linguistically better referred to as a '*proasteion*'.

The contemporary inhabitants of ancient Sagalassos would have similarly perceived and recognised the presence and significance of visible and invisible boundaries. Such boundaries were present in various forms, as actual physical borders throughout the city (walls, gates, *cippi*, bridges, *necropoleis*, *etc.*) and within the landscape (rivers, marshes, steep slopes, *etc.*), but also in less visible forms (*passus mille*, city districts, division between public and private space, *etc.*). Specifically for the case of the Eastern Suburbium, such meaningful boundaries mainly consisted of topographical features (the surrounding slopes), changes in the layout of the street network (less regular, different road surfaces), the terraced slopes, the overlap with the Eastern Necropolis and the presence of a different set of buildings and activities than in the city centre and wider *suburbia* (artisanal workshops, plain public architecture). The Eastern Suburbium also shared characteristics with both the city centre (densely built-up, public infrastructure) and with the wider *suburbia* (terraced slopes). While the *proasteion* developed its own internal street network, it was connected with both the city centre and the *Hinterland* through a thoroughfare of which the importance most probably transcended local needs. This road was probably one of the few streets leading into Sagalassos that could be surmounted with a cart. It is thus likely that the street leading into the quarter from the Elmalı Pınar area would have not only have been used for traffic with the Eastern Suburbium as its final destination.

A historical overview of the Eastern Suburbium

Since we already provided a summarising functional overview of Chapters 4-9 in § 10.1, we will restrict ourselves to a chronological overview of the data presented in those chapters. This overview is in se not a conclusion, but should be understood as the framework in which the conclusions are imbedded. Presenting an overview of the available data was, indeed, one of the main aims of this thesis; this basic set of data can hopefully serve as a reference for future research.

The earliest indications for intensive human interactions within the Eastern Suburbium – which, at that time, cannot yet be identified as an actual *proasteion* belonging to an urban centre – dates to Classical/Hellenistic times. The Central Depression, a bowl-shaped geographical feature in the southeastern part of the Eastern Suburbium, was the siting for a clay quarry. The subsoil of this natural depression yielded suitable clay beds that could be quarried in terraces for use in the contemporary pottery production. The potters themselves were not located within the Eastern Suburbium at that time; a Middle Hellenistic artisanal quarter has been discovered at the site of the later Odeion. Clay mining activities within the depression went on at least until Late Hellenistic times, and possibly continued on a smaller scale throughout Roman and Early Byzantine times.

Also the terracing of at least parts of the northern slopes can be dated to Classical/Hellenistic times. Their layout must have been a communal effort, with retaining walls erected at regular intervals, following the contour lines of the local topography. While these terraces were probably originally intended to extend the available arable land in the immediate vicinity of the town, they would from Mid Hellenistic times onwards be used for burials as well. This shift in purpose probably not coincidentally coincided with the Sagalassos village transforming into an actual urban centre from Mid Hellenistic times onwards, symbolised by the construction of a market building and the first city walls. These developments would allow the Eastern Suburbium to gradually grow into an actual suburban *proasteion*, displaying a variety of activities that for one reason or another were located *extra muros*.

The oldest burial forms encountered within the Eastern Suburbium were cremation remains deposited in ceramic urns (reused cooking vessels). A nearly intact group of such burials had been discovered deposited along one of the terrace walls at site F and the chance encounter of sherds from similar Hellenistic urns at various locations in the quarter suggests that the practice was already widespread. Ceramic urns coexisted with *osteothekoi*, which have been mainly found fragmented and ex situ throughout the Eastern Suburbium, but mostly within or in the immediate vicinity of the maximum extent of the Eastern Necropolis. The oldest forms of these stone *cineraria* are rectangular; vase-shaped varieties would appear from Augustan times onwards. One Π-shaped ashlar burial monument encountered at site F proves that the tradition of *aedicula* tombs, which would become more widespread in Roman Imperial times (see further), was already present in Sagalassos in (Late) Hellenistic times. Based on the presence of an undated *sarcophagus* in the immediate vicinity of this monument it cannot be excluded that the practice of inhumation predates Early Roman Imperial times as well.

Surveys revealed the presence of a large limestone quarry in the southeastern outpost of the Eastern Suburbium, while several smaller quarries on patches of outcropping rock have been discovered at various locations in Elmalı Pınar and Gökpınar. Limestone originating from these 'eastern quarries' appear to have been used in monuments in the city centre from Late Hellenistic times onwards. The exploitation of this quarry can most probably be linked with the urban texture sprawling beyond its eastern walls, as a new, mainly residential quarter developed on the slopes towards the Eastern Suburbium. Augustan times would bring significant changes for the *proasteion* itself, with the genesis of a large artisanal quarter in the central, less steep parts of the area, surrounded by the gradually expanding Eastern Necropolis. The vast majority of the artisanal quarter consisted of pottery workshops, but it cannot be excluded that also other (kiln-related) crafts would have settled in this area. Evidence for the presence of local glass working, metallurgy, wool dying and bone carving has been collected through excavations and surveys, but no contemporary Roman Imperial workshops could yet be identified. Their settlement in the Eastern Suburbium would have provided these crafts with the same (advantageous) factors

that might have motivated the relocation of the potters' quarter to this area: available space, immediate access to the main market, easy accessibility for the import of raw materials and fuel, a steady water supply and a certain level of protection. Moreover, such a concentration of crafts would have been advantageous for possible collaborations and thus for facilitating certain joint steps in the *chaîne opératoire*. A certain level of collaboration between workshops has been suggested for the potters' craft, especially based on the observations made during the excavations of the PQ coroplast workshops (see further).

The main street leading into the Eastern Suburbium from the southeast, through Elmalı Pınar and Gökpınar, would be an important lifeline for the fruition of the quarter, as would be the street connecting the *proasteion* with the city centre. It is likely that the former street was originally constructed as a quarry road. Since heavy loads (stone, raw clay, fuel, *etc.*) needed to be hauled into the quarter, the slope of the uphill trajectory would probably not have exceeded 15 %. Sections of this ancient road were recognised in Gökpınar and Elmalı Pınar and the geophysical survey results allowed us to reconstruct the route throughout the Eastern Suburbium. The missing sections could be tentatively reconstructed on the basis of features that would have likely flanked the road (funerary remains and a rock face with votive inscriptions), the presence of slag (probably used as an aggregate in the road construction) and by applying the 'path of least resistance' principle. The quarter would in the meantime develop its own internal network of streets and byroads. Their layout would to a large extent depend on the presence/absence of terraces. The terrace walls generally followed the contour lines and thus created level tracts of east-west oriented land, which would be suitable for traffic. The roads perpendicular to these main streets, however, would have to overcome successive terraces and would be too steep for efficient transport. Both the geophysical survey and the excavations confirm the close relationship between terrace walls and streets within the area. A test trench on one of the east-west oriented traffic axes revealed that the street was of the *via glareata* type, with in its original layout a pavement with volcanic tufa slabs and thereafter a gravel surface that was regularly renewed.

The potters of the Eastern Suburbium would be specialised in the production of Sagalassos Red Slip Ware (SRSW), while coarse ceramics and building ceramics were produced elsewhere, most likely (on estates) in the countryside. The potters' quarter appears to have reached a considerable extension already by the middle of the 1st century AD, with workshops occupying even the peripheral zones of the *proasteion* (site F). It is not certain whether this means that the production was already at full throttle or rather that several plots of land in the central parts of the quarter were still in use for agriculture, as can be assumed by the absence of earlier workshop remains underneath the Early Byzantine PQ coroplast workshops (see further). The output of SRSW would in any case reach its first peak between Flavian and Severan times. The archaeological remains show that individual workshops were able to perform all steps of the potting process: preparing the clay, throwing/moulding the vessels/figurines, drying, coating with slip and firing in a (specialised) kiln. It is not certain where (large) stocks of vessels would have been subsequently kept. They were either stored somewhere central or were delivered to the markets and shops. Potters possessed their own personal tools, but it is not certain to what extent, if at all, they had a hand in erecting and equipping the ateliers. Contemporary Egyptian papyri mention *locatio conductio rerum* contracts, in which the workshops and equipment were leased to the (master) potter for a certain amount of years.

In the second half of the 1st century AD also the thus far undeveloped southwestern quarter of the Eastern Suburbium would become incorporated into the built-up area by the construction of several structures. The differences with other parts of the *proasteion*, however, are manifold. The structures are larger, completely erected in stone (in contrast to the use of mudbrick walls on a stone plinths for many of the workshops), well-built and following a more regular orientation. Also the parallels in their genesis, development and abandonment seems to suggest a uniform concept behind their construction. Only two buildings were (partially) excavated and for both cases we dare to suggest a (semi-)public purpose. The PQ 2 building, a hall-shaped structure, was at least from the 2nd century AD used for communal dining. Site G appears to have been the main complex of this southwestern quarter. The central part of the complex seems to consist of an open yard, surrounded at least on

three sides by walls and flanked along its northern and southern edge by several rooms. Other structures in the immediate vicinity follow the same orientation, which might imply that they form part of the same complex. Based on circumstantial evidence we have postulated an identification as a *campus*: a multi-purpose complex that offers the facilities to host mass events such as festivals and (cattle) markets. Other suggestions, including the original idea of a *gymnasion*, cannot be entirely excluded. Other building in this quarter include the so-called 'Shrine' (a temple-shaped structure located at a prominent location, flanking the road coming into the Eastern Suburbium from the city centre. The largest single building of the Eastern Suburbium is located immediately to the southeast of the PQ coroplast workshops. Only some annex rooms have been partially excavated, but the visual remains of the outer walls and the still in situ monumental entrance of the building suggest that we are dealing here with an important building. Its rectangular layout resembles that of 'hall-type' baths and that of large *scholae* centred around a colonnaded courtyard. The Sagalassos setting makes it less likely that an individual association (religious, professional, *etc.*) could afford constructing or renting such a complex, so also in this case we are inclined to associate the building with a public function.

Funerary culture in Early Roman Imperial times appears to have embraced both cremation and inhumation practices. The large PQ 4 burial compound along the eastern edge of the Eastern Suburbium was most likely erected in the second quarter of the 2nd century AD, while the vaulted tomb at site F might be one or two generations older. Both burial sites appear to have been exclusively used for inhumations. The earliest inhumations at site PQ 4 were interred in individual, constructed tombs, which were erected simultaneously with the rest of the entire compound. The PQ 4 compound appears to have been only sparsely used for new burials in the following centuries, but was intensively (re)occupied during the later 3rd and 4th century AD. Likewise, the human remains encountered inside site F's vaulted tomb did not represent its original period of use, but were buried there in the 4th century AD, either as the result of a legal transaction or by usurping a derelict tomb. It is probably that *osteothekoi* and possibly also ceramic urns were still in use for cremation burials. The *osteothekoi* would eventually be replaced by *arcosolia*; ceramic urns might have disappeared altogether. One particular burial, dated to (Early) Roman Imperial times, did not fit within any other attested burial practice at Sagalassos. The deceased was burnt on a funeral pyre, together with appropriate burial gifts. The pyre did not collapse into a pit (which would be the common practice for *bustum* burials); neither were the remains gathered to be deposited in a *cinerarium* or to be buried elsewhere. After the pyre had burnt down, bent and pinched nails were strewn around the *ustrinum* and the remains were subsequently covered with bricks and a thick layer of lime. We hypothesise that we are witnessing here forms of magical practices meant to keep the deceased, who might have died a 'bad death', in his underworld. Nails that 'fix' the individual to the grave, stones that weigh down the body and the use of the purifying or dissolving qualities of lime have been attested in various forms in funerary contexts in the Ancient World.

The Middle Roman Imperial period would see the investment in new aqueducts providing (the major monuments in) the city with a permanent supply of water. The main eastern aqueduct would stretch along the northern, eastern and southern flank of the Akdağ, along the southern flank of the Ağlasun mountains and subsequently through the Eastern Suburbium on its way to the main monuments in the Upper City. The aqueduct was partially rock-cut and partially constructed and could provide the city with an estimated maximum flow of 530 l/s. Sections of the aqueduct have been exposed both at the EA trenches and at site F, along the northern terraces of the Eastern Suburbium.

By this time the SRSW pottery production appears to have functioned at full capacity. The output of the workshops far surpassed local needs and a significant part of the working population would have been seasonally involved in the industry. Limestone quarrying was attested during this period as well, as the large southeastern quarry was probably the main source for building stone for the Theatre, which was constructed during the Antonine period. Stones were probably roughly carved at the quarry floor itself, which resulted in two huge crescent-shaped piles of stone chips on either side of the quarry. Finishing or adapting the stones used in the Theatre's construction resulted in a dump of stone chips immediately southeast of the Theatre. This period would

also be characterised by the popularisation of *sarcophagi* as burial monuments (see further). A probably open air *sarcophagus* carving workplace was identified on top of the slope south of the Central Depression. From the 3rd century AD onwards, however, construction sites become rare, no new monumental tombs are being erected and *sarcophagi* go out of fashion around the middle of the same century. It is likely that the local quarries were no longer (intensively) exploited from the second half of the 3rd century AD onwards and a drilling core collected from the quarry floor in the southeast of the Eastern Suburbium suggests that the area was eventually used as a landfill.

Our evidence for burial practices during the Roman Imperial period is particularly extensive, especially because this period is characterised by a shift towards monumental funerary display for an increasingly large part of the population. This period would see the erection of dozens of temple-shaped tombs (*naiskoi*), *aedicula* tombs and several other types of monumental funerary architecture constructed within walled burial plots (*temenoi*). *Sarcophagi* and rock-cut *arcosolia* and *chamosoria* would mainly occupy the steep, rocky slopes east and south of the *proasteion*, but *sarcophagi* were also used inside the *cellae* of larger tombs or as free-standing monuments in the *temonoi*. Since the core parts of the Eastern Necropolis (the northern, eastern and southern slopes) would eventually run out of space and since large-scale expansion towards Elmalı Pınar was apparently not an option (another invisible boundary?), burial plots started to encroach upon the centre of the *proasteion*, where they would come to compete for space with the artisanal activities.

The 'monumental' southwestern quarter of the Eastern Suburbium would apparently be preserved from this type of infringements on its space. This cannot only be explained as the result of coincidence, but should rather be understood as a deliberate, centralised choice. The desire for funerary display could easily be met with in the Eastern Suburbium: either by a setting along a main thoroughfare (*e.g.* the burial plots lining the street at site PQ 3), a location on one of the terraced slopes overlooking the entire quarter (*e.g.* site F) or overlooking the Central Depression (*e.g.* site D and the *naiskos* tomb at PQ 1) or from vantage points along the eastern ridge (*e.g.* tombs G5 and G6[1370]). The attraction value of the Eastern Necropolis, on the other hand, would seem less interesting than for example that of the Southern and Western Necropoleis, which would undoubtedly draw more passers-by who have the city centre as their destination. The remarkably high amount of monuments in the Eastern Necropolis might therefore be linked with the presence of the 'monumental' southwestern quarter, which could have attracted large crowds if our identification of its public purposes is correct. Not all tombs were monumental, however, as has been attested by the discovery of several contemporary simple pit inhumations on the higher terraces of site F. These individuals were buried in wooden coffins, in an east-west orientation (following the terrace) and without or with few simple grave gifts.

The PQ 2 building was used for communal dining during the Roman Imperial period. Dumps of these meals have been encountered both outside the eastern wall, but also inside the building, apparently resulting from a 'final banquet' in the second half of the 3rd century AD. These contexts provided us with an unforeseen complete and detailed set of information into this type of events and will allow us (the work is ongoing) to reconstruct the used crockery, the consumed meals and the amount of participants. The building was never reoccupied after this 'final banquet' and other buildings within this southwestern quarter appear to have been abandoned in the following century. The PQ 2 dining hall is clearly not an elite setting and it is tempting to link these communal activities with the surrounding artisanal presence. However, the available data do not yet allow us to make such claims. Further field work at the site and material study is planned for the 2016 campaign.

The Late Roman period is characterised first and foremost by the abovementioned discontinuity of the 'monumental' southwestern quarter. This large area appears not to have been reoccupied intensively in the following centuries; the main attested activities after abandonment are waste dumping and partial dismantlement of the remaining structures. The fact that the area is not encroached upon in other ways might

[1370] Köse 2005a, 132 Fig. 27. See also **Fig. 10.4** in this thesis.

on the one hand suggest that there was no longer a fierce competition for space in this densely built-up area, or might be explained as the result of specific choices made by the landowner(s). Later, in the early 6th century AD, a church would be constructed in the northeastern corner of the *proasteion*. This can to some extent be understood as a short-lived recrudescence of the public presence within the area, as the church site as well would apparently have been abandoned before the early 7th century earthquake struck the region (see further).

We also already mentioned the disruption in the construction of new funerary architecture. Whether this was specific to this Eastern Necropolis can only be established by further research into the other *necropoleis* around the city. If such an assumption could be confirmed, then it might be another indication for a link between the success rate of the Eastern Suburbium as an area for funerary display and the presence of the 'monumental' southwestern quarter. The depletion of the southwestern quarter could therefore be seen as having a negative effect on the attractiveness of the necropolis. The funerary practices of this period would furthermore be distinguished by the usurpation, reuse or relaunch of older burial monuments, as could be attested at various sites throughout the study region (*naiskos* tomb at site PQ 1, vaulted tombs at sites D and F, burial compound at site PQ 4). The assumed loss of interest in the area by the wealthy might have opened up a potential for the less well-off to find a final resting place in a not anonymous setting. The burial compound at site PQ 4 was reoccupied after a long interruption. The fact that the original tombs were left intact suggests that there would have been grave markers at the surface (even though no evidence for this has been encountered during the excavations) and that the compound might still have served the initial investing party (a family or an association?).

There was, on the other hand, continuity in the production of SRSW, with the redevelopment of the pottery workshop west of the *naiskos* tomb at site PQ 1, the erection of a new cluster of pottery workshops specialised in the production of coroplast wares at site PQ and the instalment of another coroplast workshop in the former public building east of the Library, in the Eastern Residential Quarter. This latter example is one of many indications for a gradual shift in the approach towards the urban, suburban and rural texture (see further). The pottery trade within the quarter would, however, relatively abruptly come to a halt at the end of this period. The production of SRSW would continue for more than a century at another, as yet unidentified location.

In the meantime, landfills, dumps and deposits of waste would increasingly become a factor within the Eastern Suburbium, as these would gradually take up more and more land. Most of this waste originated from the artisanal activities themselves, but the presence of complete animal carcasses and domestic waste suggests that the area might also have served as a dumping ground for the city centre and/or Eastern Residential Quarter. Dumps of domestic waste and construction debris would eventually also become a more common sight within the city centre and residential quarters. While other activities would gradually disappear from the *proasteion*, agriculture and pastoralism would return into the quarter. The former 'monumental' southwestern quarter might have been the area that first became cultivated, as this vast, level land offered relatively few obstacles. Plots of land appear to have been marked by dry walls, which were erected across the terrain, at odds with the orientation of the former infrastructure.

The impact of the earthquake that struck the city in the 7th century AD was relatively less devastating for the Eastern Suburbium than it was for the city centre and residential quarters. The area was apparently already devoid of permanent human presence before the event. Obviously, the agricultural and pastoral activities that appear to have constituted the main investments into the area would be less affected by this natural disaster. Throughout the Eastern Suburbium three clusters of pastoral activities, each consisting of several corrals and a shelter, could be recognised. Together these form a pastoral campsite comparable to similar arrangements encountered at other mountain pastures along the Ağlasun and Akdağ mountain range. It is difficult to date these features, since this practice has been relatively unaltered until present day, but associated finds suggest a Byzantine origin. Agricultural activities within the area might have concentrated on the more level parts of the terrain, such as the area around site G and the floor of the Central Depression. There are no indications that more sloping terrain was terraced anew in order to create larger tracts of arable land.

'Levels of urbanisation'

Already in Chapters 1-3 we could establish that the ancient city of Sagalassos was not a clear-cut homogeneous urban entity enclosed by city walls and surrounded by a rural *chora*. A closer inspection of the data at hand allowed us to recognise an intricate model of interacting zones with different 'levels of urbanisation'. The permeability of these zones would differ between periods, and no boundaries would ever have been completely impervious, but the evidence suggests that the boundaries were most strictly upheld during Roman Imperial times. For that period, we proposed the existence of the following zones: the monumental city centre (Upper and Lower City), the residential quarters (Western and Eastern Residential Quarters), the *continentia aedificia*, the periurban *proasteion*, the *necropoleis*, the wider suburban lands and the *chora* with the economically viable lands and the 'useless' or inaccessible terrain. This division has been compared to traditional views on the division urban-suburban-rural in either a concentric pattern or a radial model, which did not seem applicable to the case study of Sagalassos and its territory. We suggest that the subdivision of space in Sagalassos should be understood as the result a complex interaction between circumstantial (such as topography, geography, legislation, economy, customs, taboos, *etc.*) and causal factors (such as external and internal stress). Some of these factors were very space- and time-specific (topography, local customs, the 7th century AD earthquake, *etc.*), others could also apply to a much wider historical and geographical setting (legislation, taboos, pandemics, *etc.*).

It was not within the scope of this thesis to try to sift through all possible factors in order to understand the changes in these boundaries throughout the history of Sagalassos for all above 'levels of urbanisation'. We did, however, attempt to come to a better understanding of the changes in the character of the Eastern Suburbium, and to some extent the city and territory, during Late Antiquity and subsequent 'Dark Ages' (see § 10.2), a period for which the term 'ruralisation' had been regularly used in other publications. We could conclude that this term inadequately addresses the set of events that takes place during Late Antiquity. This period is characterised by multidirectional transgressions of activities at all above mentioned 'levels of urbanisation': from urban to suburban and rural (*e.g.* erection of churches as new focal points throughout the territory, newly established fortified strategical locations), from urban to rural (gradual population depletion of the city, probably in favour of the countryside), from suburban to rural (artisanal activities increasingly moving to the countryside), from rural to suburban (agriculture and pastoralism return to the Eastern Suburbium), from suburban to urban (waste no longer systematically removed from the city centre, artisanal activities encroach upon public and residential space, elite possibly leaving estates for mansions in the city), from rural to urban (manure stocking under the Imperial Baths), *etc.* Some of these shifts cannot be fitted into the mould urban-suburban-rural, such as the appearance of cemeteries concentrated around the newly erected churches, which is where we see the creation of new zones unique to the Christianised world.

The 'marginal' Eastern Suburbium

Apart from the obvious marginalisation of the study region in a geographical sense, at the outskirts of the city, we considered whether there were also reasons to consider the Eastern Suburbium as a disadvantaged zone in other aspects, whether the area was a paragon of suburban development or whether – as always – the truth lay somewhere in the middle.

In § 11.2.1 we could establish that the Eastern Suburbium of Sagalassos could indeed have suffered from most of the possible issues associated with ancient *suburbia*. Within the study region we could recognise the symptoms of a breeding ground that might have led to health issues, fears, nuisances, disruptions and dangers. This does not mean that all these factors would have come into play, let alone that they would have worked together and reinforced each other. But the densely built-up and to some extent organically grown Eastern Suburbium was certainly not a relaxing oasis. As was the case in many ancient towns and cities, the Eastern Suburbium appears to have served as a receptacle for activities that were confined to the periphery of the city for a variety of reasons, at least some of which having at its core the idea of keeping the sacred centre of the city

both spiritually and physically ‘clean’. The negative factors are certainly not fully compensated by the possible positive opportunities that came with a suburban setting: cheaper land prices, availability of space and economic possibilities. The topographical confinement curtails the amount of available land and the land prices would have kept up with the competition for space that certainly was the case during most of the (Early) Roman Imperial and Late Roman times. The area did provide opportunities for the development of an extensive potters’ quarter. The observation that this quarter is so distanced from its raw clay sources can actually be understood as a logical path-dependent relocation of the Hellenistic potters’ quarter, with the Eastern Suburbium offering a set of profitable factors.

The establishment of a ‘monumental’ quarter in the southwest of the *proasteion* would have been an impetus for the area as well, as we postulate that the infrastructure was most likely intended to cater for mass events. It is probably not a coincidence that the heyday for funerary architecture and the vast enlargement of the Eastern Necropolis runs parallel to the rise and demise of the southwestern quarter. The periods following after the abandonment of this southwestern quarter would see a further decline in investment in the funerary presence and communal activities within the area. Instead of new constructions, we notice that ruined buildings are further dismantled and that older tombs keep on serving beyond their ‘expiry date’, which would not have contributed to the appeal of the quarter. These developments, however, would have had little effects on the artisanal activities, which appear to have thrived throughout the Late Roman period and even to have come to a new production output peak well into the 6th century AD.

Future research

The aim of this thesis has been to present and assess the data gathered from almost 30 years of (interrupted) research in the Eastern Suburbium. The project included additional fieldwork at various locations throughout the proasteion (2011-2014), which was planned in an attempt to provide answers to specific research questions. The added fieldwork combined excavations, test trenches, field survey, geophysical surveys (electrical resistivity tomography and seismography-magnetometry), geochemical survey, aerial photography, and (not executed) additional coring. Many colleagues from various disciplines have been involved in gathering this information. True to the nature of archaeology, these research techniques did not always procure the sought-after information, even though the results were by no means less relevant to the study. The added value of the multitude of disciplines has been particularly obvious, since we have been able to arrive at a more or less holistic assessment of the study area even though less than 5 % of the terrain has been subjected to excavations. While this percentage is in other situations below par even for an inventory research by trenching, the targeted siting of the excavation trenches and the complementary information provided by the other, non-destructive disciplines has significantly raised the value of the research. Nevertheless, excavations will always provide a level of detail and a chronological framework that other disciplines cannot provide. While writing up this thesis it gradually became clear where we are still lacking data and which research questions might profit from additional results. Therefore we wish to suggest a list of potentially valuable research subjects and sites where additional research would significantly augment our knowledge on the Eastern Suburbium.

Future archaeological research

1. **Inventory test trenches in a regular grid.** The siting of archaeological research in the Eastern Suburbium has until now been mainly based on particular research questions. While this was the logical and scientifically relevant choice – since it could be based on the geophysical blueprint of the area – this might also have resulted in a somewhat skewed view on this *proasteion*. An archaeological inventory research by trenching, executed in a regular grid throughout the research area, would complement the existing information with unprejudiced data. One of the open research questions concerns the presence or absence of other artisanal activities within the quarter (glass production, metallurgy, textile manufacturing, fulling, *etc*.). A strategy of test trenches in a rigid pattern might answer this question, as well as provide us with information on as yet undetected features and activities within the Eastern Suburbium.
2. **The rectangular building southeast of the PQ coroplast.** This building appears to be the largest single structure within the Eastern Suburbium (considering the site G complex as a series of buildings around a central yard). This building could not be identified yet; the spaces that were encountered within the PQ trenches most probably comprised secondary annexes to the main building, as suggested by the geophysical survey. The excavations, the orientation and location, the geophysical survey as well as the still standing remains of its entrance confirm its identification as a monumental and probably public structure. The focused excavation of specific sections of this building might shed more light on its purpose. A test trench along its entrance might procure epigraphic data; in addition a trench throughout along its eastern rooms might provide information on the original purpose of the structure, as well as on the dating of the (presumably) subsequent kiln-related activities.
3. **The site G complex and adjacent 'shrine'**. The identification of the site G complex might remain hypothetical as long as no additional (epigraphic?) data can be retrieved to back it up. The presumed characteristics of the complex, as well as the post-occupational interventions make it unlikely that additional excavations throughout the complex will provide conclusive data, even though all information (even circumstantial) would be helpful in building up the evidence. We suggest that the highest probability on gaining extra information on the complex lies in the excavation of the so-called 'shrine', located northwest of the central square. Both the location and orientation of this small temple-shaped structure imply that it forms part of the larger complex. Here, on a relatively small surface, we

are more likely to gather possible crucial information (inclusive epigraphic). Even if this data only allows us to identify the purpose of the 'shrine' itself or of the deity it is dedicated to, this information might be useful in the determination of the whole complex (specific deities are often linked with specific functionalities). The excavation of an assumed temple would also be valuable in its own right, since we do not have any proof for any pre-Christian religious activities within the *proasteion* that are not linked with funerary presence.

4. **Burial compounds at sites PQ 1 and PQ 4**. There are several excavations within the Eastern Suburbium that remain unfinished. In the case of the coroplast workshops, the potential information gain from additional excavations might be limited. In the case of the PQ 4 burial compound and the PQ 1 naiskos tomb's temenos, one additional excavation season would suffice to document the whole complex. For the PQ 4 site in particular, this would provide us with a complete and apparently undisturbed burial context, providing invaluable data for anthropology, DNA research and archaeology. The long period of use of the building might shed light on either familial or communal (*collegia*-related?) burial customs. The complex also contains a separate room at a higher location along its northern wall, which might be the as yet unexposed main burial chamber. In the case of the *naiskos* tomb at site PQ 1, completing the excavation within the surrounding temenos might provide us with additional information on the preceding workshop phase, on the organisation and possible facilities present within a funerary compound and on rituals associated with commemoration of the ancestors. Within the *naiskos* tomb itself, the northern burial chamber remains intact and unopened.

Future surveys

1. **Architectural study of the southwestern monumental column (involving excavation?)**. The column that once adorned the southwestern corner of the Eastern Suburbium (see § 7.5.5) has not yet been studied in detail, although a lot of its building elements are (partially) visible at the surface. Excavation might be required to expose and recover missing elements of this column, but its isolation and the size of its building blocks make it highly likely that all elements of the structure can be retrieved. Further research is required to be able to interpret the monument itself (funerary or honorific?), but there is the additional symbolic value of its relation with both the Eastern Suburbium and the city centre. A possible reconstruction of this monument could help to integrate the suburban texture, now highly 'marginal' to visitors, into the archaeological site.
2. **Geophysical surveys**. It could be recommended to extend the current coverage of the geophysical surveys to include the northern terraces. A north-south oriented 'slice' of 10 m wide west of site F, measured in 2012, yielded clear results and exposed at least one other tomb. Geophysical surveys might also be useful throughout parts of the Elmalı Pınar valley, in an attempt to reconstruct the course of the road leading into the *proasteion* (the roads show up well-defined in the geophysical survey of the Eaestern Suburbium itself). Similarly, it can be useful to explore the road and adjacent features in the gorge immediately south of the Eastern Suburbium, which connects the Central Depression with the Lower City. It might provide us with additional information on the layout of burial plots along this *Gräberstrasse* and/or it might confirm or refute the presence of residential dwellings closer to the Eastern Residential Quarter.
3. **Field surveys**. Intensive field surveys have barely touched the Eastern Suburbium (see § 2.2.3); our knowledge is limited to the area of site G and the eastern ridge. Moreover, for both areas different strategies were employed – with good reason – which makes it difficult to compare the results. There is a high density of artefacts at the surface, among which several concentrations of misfired pottery that were already recognised during the first survey in 1986, but that were not consequently mapped. There are relatively few architectural remains visible at the surface, but it would be an asset if those could be mapped in detail.

Future theoretical research

1. **Comparative angle**. Throughout this thesis we have attempted to provide relevant comparative material for specific features and case studies, but the whole phenomenon of the Eastern Suburbium of Sagalassos has not been compared with suburban developments in other cities and towns of the Ancient World. For Anatolia, there is relatively little material on a comprehensive level that can provide parallel case studies, but there is no need to limit this search to Anatolia or even to limit the scope to Antiquity. The past 5-10 years have seen a boom in publications on suburban topics, mainly from the Latin West, which makes it all the more relevant to position this specific eastern provincial context within the wider framework of ongoing studies. The working hypothesis would be that the site-specific conditions of Sagalasoss in general and the Eastern Suburbium in particular gave rise to a rather unique suburban development, but the same might hold true for any other case study that can be studied to a certain level of detail.
2. **The people from the Eastern Suburbium**. While this thesis has touched on various aspects of human presence – both the living and the dead – in the *proasteion*, this has not yet led to a comprehensive study of the people occupying the Eastern Suburbium. An early draft for a chapter on the topic has been attempted, but additional reading is required to rise above the mere descriptive-suggestive level based on archaeological observations. This topic would not only include the workers of the artisanal quarter and the 'inhabitants' of the *necropoleis*, but also the participants of communal feasting events, the travellers, the landowners, the mourners, *etc*.
3. **Seasonality and the organisation of labour**. The particularities of a mountainous climate and geography define to a large extent life and death an ancient (and modern) societies. One aspect would be the organisation of labour. It has been suggested that the working population (seasonally) involved in the pottery industry was disproportionately large for the relative small population of the ancient town of Sagalassos. If several dozens of kilns were active at one and the same time, then the people involved in the trade (quarrying, transport, preparing, potting, operating kiln, storage, selling, apprenticeship, managing, catering, *etc*.) would have been a multiple thereof. Since the pottery trade (and many other artisanal occupations) could only be performed in the right climatological conditions, these workers would not be able to participate in the subsistence economy during some of the most relevant months for agriculture. In addition, these labourers represent a vast, specialised workforce that might offer their services elsewhere, for example in localities (coastal areas?) where the climatic conditions are appropriate year-round (a type of itinerant labour that is by no means unique to the Ancient World[1371]). Part of this variability, such as annually recurrent patterns of migration and consumption, could be factorised, but others would be random and by definition unpredictable; as a concequence, most craftsmen would not have been able to count on a regular income.[1372] Specifically for the potters, this also raises questions on the type of contractual arrangements and relationships that existed between (land) owner/financer, 'master potters' and their workforce. Studies regarding this topic are either relying on ancient textual evidence (*e.g.* Egypt) or on extremely well-documented local industries (*e.g.* La Graufensenque). An approach from a particular case study from the Greek East might provide new insights into the matter.

[1371] De Planhol 1956, 168-175.
[1372] Hawkins 2009.

BIBLIOGRAPHY

- GENERAL -

ARAŞTIRMA SONUÇLARI TOPLANTISI (AST)

T.C. KÜLTÜR BAKANLIĞI. ANITLAR VE MÜZELER GENEL MÜDÜRLÜĞÜ (1990-2004) *Araştırma Sonuçları Toplantısı* 8-22.
T.C. KÜLTÜR VE TURISM BAKANLIĞI. KÜLTÜR VARLIKLARI VE MÜZELER GENEL MÜDÜRLÜĞÜ (2005-2013) *Araştırma Sonuçları Toplantısı* 23-31.
http://www.kulturvarliklari.gov.tr/TR,44761/arastirma-sonuclari-toplantilari.html

ARKEOMETRI SONUÇLARI TOPLANTISI (AMST)

T.C. KÜLTÜR BAKANLIĞI. ANITLAR VE MÜZELER GENEL MÜDÜRLÜĞÜ (1990-2004) *Arkeometri Sonuçları Toplantısı* 6-20.
T.C. KÜLTÜR VE TURISM BAKANLIĞI. KÜLTÜR VARLIKLARI VE MÜZELER GENEL MÜDÜRLÜĞÜ (2005-2013) *Arkeometri Sonuçları Toplantısı* 21-29.
http://www.kulturvarliklari.gov.tr/TR,44762/arkeometri-sonuclari-toplantilari.html

KAZI SONUÇLARI TOPLANTISI (KST)

T.C. KÜLTÜR BAKANLIĞI. ANITLAR VE MÜZELER GENEL MÜDÜRLÜĞÜ (1990-2004) *Kazı Sonuçları Toplantısı* 12-26.
T.C. KÜLTÜR VE TURISM BAKANLIĞI. KÜLTÜR VARLIKLARI VE MÜZELER GENEL MÜDÜRLÜĞÜ (2005-2013) *Kazı Sonuçları Toplantısı* 27-35.
http://www.kulturvarliklari.gov.tr/TR,44760/kazi-sonuclari-toplantilari.html

- A -

ABASCAL & CEBRIÁN 2010

ABASCAL, J.M. & CEBRIÁN, R. (2010) El paisaje suburbano de *Segobriga*, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 289-308.

ABBOTT & JOHNSON 1926

ABBOTT, F.F. & JOHNSON, A.C. (1926) *Municipal Administration in the Roman Empire*, New York.

ADAMS 2006

ADAMS, G.W. (2006) *The suburban* villae *of Campania and their social function* (*BAR International Series* 1542) Oxford.

ADAMS 2008

ADAMS, G.W. (2008) *Rome and the social Role of Élite* Villae *in its Suburbs* (*BAR International Series* 1760) Oxford.

ADAMS 2012

ADAMS, G.W. (2012) *Living in the Suburbs of Roman Italy. Space and social Contact* (*BAR International Series* 2449) Oxford.

ADKINS & ADKINS 2004

ADKINS, L. & ADKINS, R.A. (2004) *Handbook to Life in Ancient Rome*, New York.

AGUSTA-BOULAROT 1998

AGUSTA-BOULAROT, S. (1998) Banlieue et faubourgs de Rome: approche linguistique et définition spatiale, in: **BEDON, R.** (ed.) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 35-62.

AHRENS 2015

AHRENS, S. (2015) "Whether by Decay or Fire consumed…": Cremation in Hellenistic and Roman Asia Minor, in: **BRANDT, J.R., PRUSAC, M. & ROLAND, H.** (eds.) *Death and changing Rituals. Function and Meaning in ancient funerary Practices*, Oxford & Philadelphia, 185-222.

ALDRETE 2004

ALDRETE, G. (2004) *Daily Life in the Roman City: Rome, Pompeii and Ostia*, Oklahoma.

ALEXANDER 1972

ALEXANDER, W.C. (ed.) (1972) *Ceramic Toxicology*, Potters Society of Australia.
http://www.sfsu.edu/~ceramic/manual/ceramictoxicology.htm

ALEXANDRIDOU 2013

ALEXANDRIDOU, A. (2013) Destructions at the grave. Ritual Burning and Breaking in 7th-century BC Attica, in: **DRIESSEN, J.** (ed.) *Destruction. Archaeological, philological and historical Perspectives*, Louvain, 269-283.

ALFAYÉ VILLA 2009

ALFAYÉ VILLA, S. (2009) *Sit tibi terra gravis:* magical-religious Practices against restless Dead in the ancient World, in: **SIMÓN, F.M., PINA POLO, F. & REMESAL, R.** (eds.) Formae mortis: *el tránsito de la vida a la muerte en las sociedades antiguas*, Zaragoza, 181-216.

ALFAYÉ VILLA 2010

ALFAYÉ VILLA, S. (2010) Nails for the Dead: A polysemic Account of an ancient funerary Practice, in: **SIMÓN, M. & GORDON, R.L.** (eds.) *Magical Practice in the Latin West*, 427-456.

ALFÖLDY 1991

ALFÖLDY, G. (1991) *The social History of Rome*, Baltimore.

ALFÖLDY 2011

ALFÖLDY, G. (2011) *Römische Sozialgeschichte* (4th ed.), Wiesbaden.

ALMAGRO 1955

ALMAGRO, M. (1955) *Las necropolis de Ampurias, 2,* Barcelona.

AMORES CARREDANO 2001

AMORES CARREDANO, F. (2001) Entre campo y ciudad. La periferia urbana en Carmo, in: **CABALLOS RUFINO, A.** (ed.) *Carmona Romana* (*Actas del II Congreso de Historia de Carmona, 29 September – 2 October 1999, Carmo*) Carmona, 447-463.

ANDREU PINTADO 2010

ANDREU PINTADO, J. (2010) Espacio urbano institucional y área periurbana rural. El caso de la ciudad romana de Los Bañales (Uncastillo, Zaragoza) (*Cuadernos del Marqués de San Adrián*, special issue *Ayudas a la investigación* 09/10), 27-75.

ANDRINGA (ED.) 2008

ANDRINGA, W. VAN (ed.) (2008) *Sacrifices, marché de la viande et pratiques alimentaires dans les cités du monde romain. Meat: Sacrifice, Commerce and Food Preparations in the Roman Empire* (*Food & History* 5.1) Turnhout.

ANGELUCCI 2008

ANGELUCCI, D.E. (2008) Geoarchaeological Insights from a Roman Age Incineration Feature (*Ustrinum*) at Enconsta de Sant'Ana (Lisbon, Portugal), *Journal of Archaeological Science* 35, 2624–2633.

ANGOLD 1995

ANGOLD, M. (1995) *Church and Society in Byzantium under the Comneni, 1081-1261*, Cambridge.

ANNIBALETTO 2010

ANNIBALETTO, M. (2010) Per una topografia del limite: riflessioni sul *suburbia* di *Iulia Concordia*, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histórico. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 67-78.

ANTAYA 1980

ANTAYA, R. (1980) The etymology of *pomerium*, *American Journal of Philology* 101, 484-9.

ANTEQUERA *ET AL.* 2010

ANTEQUERA, F., PADROS,P., RIGO, A. & VAZQUEZ, D. (2010) El *suburbium* occidental de *Baetulo*, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histórico. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 173-210.

ANTICO GALLINA 2000

ANTICO GALLINA, M. (2000) Dall'urbs al territorium. Aspetti topografici del suburbio mediolanense, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 95-148.

ANTICO GALLINA (ED.) 2000

ANTICO GALLINA, M. (ed.) (2000) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan.

APPLEBAUM 1992

APPLEBAUM, H.A. (1992) *The Concept of Work: ancient, medieval, and modern*, New York.

ARMSTRONG 2012

ARMSTRONG, S. (2012) *Collegia* and mortuary Archaeology: identifying the non-Elite of the Roman Empire, *Manitoba Anthropology* 30.
umanitoba.ca/publications/openjournal/index.php/mb-anthro/article/view/128/52

ARNAOUTOGLOU 2002

ARNAOUTOGLOU, I.N. (2002) Roman Law and *Collegia* in Asia Minor, *Revue internationale des droits de l'antiquité* 49, 27-44.

ARNAOUTOGLOU 2011

ARNAOUTOGLOU, I.N. (2011) Craftsmen Associations in Roman Lydia – a Tale of two Cities?, *Ancient Society* 41, 257-290.

ARNAUD 1998

ARNAUD, P. (1998) Vers une définition géodynamique des suburbia. Éléments pour une zonation **DES** zones péri-urbaines, in: **BEDON, R.** (ed.) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 63-81.

ARNOLD 1988

ARNOLD, D.E. (1988) *Ceramic Theory and Cultural Process*, Cambridge.

ARNDT *ET AL.* 2003

ARNDT, A., VAN NEER, W., HELLEMANS, B., ROBBEND, J., VOLCKAERT, F. & WAELKENS, M. (2003) Roman Trade Relationships at Sagalassos (Turkey) elucidated by ancient DNA of Fish Remains, *Journal of Archaeological Science* 30, 1095–1105.

ASCOUGH 2008

ASCOUGH, R.S. (2008) Forms of Commensality in Greco-Roman Associations, *The Classical World* 102.1, 33-45.

ASPÖCK 2008

ASPÖCK, E. (2008) What actually is a 'deviant Burial'? Comparing German-Language and Anglophone Research on 'deviant Burials', in: **MURPHY, R.** (ed.) *Deviant Burial in the Archaeological Record* (*Studies in funerary Archaeology* 2) Oxford, 17-34.

ÅSTRÖM 1987

ÅSTRÖM, P. (1987) Intentional Destruction of Grave Goods, in: **LAFFINEUR, R.** (ed.) *Thanatos. Les coutumes funéraires en Egée à l'Âge du Bronze* (*Actes du colloque de Liège*, 21-23 April 1986) Liège, 213-218.

ATEŞLIER 2006

ATEŞLIER, S. (2006) Teke Kale'de bir anıt mezar, *Olba* 13, 145-177.

AUDRING 1981

AUDRING, G. (1981) Proastion. Zur Funktion der stadtnahen Landzone archaischer *Poleis*, *Klio. Beitragen zur Alten Geschichte* 63, 215-231.

AUSBÜTTEL 1982

AUSBÜTTEL, F. (1982) *Untersuchungen zu den Vereinen im Westen des römischen Reiches*, Kallmünz.

AUSTIN 1934

AUSTIN, R.G. (1934) Roman Board Games I, *Greece & Rome* 4 (10), 24-34.

AUSTIN 1935

AUSTIN, R.G. (1935) Roman Board Games II, *Greece & Rome* 4 (11), 76-82.

AVNI 2005

AVNI, G. (2005) The urban Limits of Roman and Byzantine Jerusalem: a View from the *Necropoleis*, *Journal of Roman Archaeology* 18, 373-396.

AYDAL *ET AL.* 1997

AYDAL, S., MITCHELL, S., ROBINSON, T. & VANDEPUT, L. (1997) The Pisidian Survey 1995: Panemoteichos and Ören Tepe, *Anatolian Studies* 47, 141-172.

- B -

BAETEN *ET AL.* 2012

BAETEN, J., MARINOVA, E., DE LAET, V., DEGRYSE, P., DE VOS, D. & WAELKENS, M. (2012) Faecal Biomarker and archaeobotanical Analyses of Sediments from a public Latrine shed new Light on Ruralisation in Sagalassos, Turkey, *Journal of Archaeological Science* 39.4, 1143-1159.

BAILEY 1986

BAILEY, L.R. (1986) Enigmatic Bible Passages: Gehenna: the Topography of Hell, *Biblical Archeologist* 49 (3), 187-191.

BAKKER *ET AL.* 2011

BAKKER, J., PAULISSEN, E., KANIEWSKI, D., DE LAET, V., VERSTRAETEN, G. & WAELKENS, M. (2011) Man, Vegetation and Climate during the Holocene in the Territory of Sagalassos, Western Taurus Mountains, SW Turkey, *Vegetation History and Archeobotany* 21, 249–266.

BAKKER *ET AL.* 2012

BAKKER, J., KANIEWSKI, D., VERSTRAETEN, G., DE LAET, V. & WAELKENS, M. (2012) Numerically-derived Evidence for late Holocene Climate Change and its Impact on Human Presence in the southwest Taurus Mountains, Turkey, *The Holocene* 22, 425–438.

BAKKER 2012

BAKKER, J. (2012) *Late Holocene Vegetation Dynamics in a mountainous Environment in the Territory of Sagalassos, Southwest Turkey (Late Roman till Present)* (unpublished PhD dissertation, University of Leuven).

BAKKER *ET AL.* 2013

BAKKER, J., PAULISSEN, E., KANIEWSKI, D., POBLOME, J., DE LAET, V., VERSTRAETEN, G. & WAELKENS, M. (2013) Climate, People, Fire and Vegetation: new Insights into Vegetation Dynamics in the Eastern Mediterranean since the first Century AD, *Climate of the Past* 9, 57–87.

BALDASSARRE 2001

BALDASSARRE, I. (2001) La necropolis dell'Isola Sacra (Porto), in: **DESCOEUDRES, J.P.** (ed.) *Ostia: port et porte de la Rome antique*, Geneva, 385-390.

BALLET *ET AL.* (EDS.) 2003

BALLET, P., CORDIER, P. & DIEUDONNE-GLAD, N. (eds.) (2003) *La ville et ses déchets dans le monde romaine* (*Archéologie et Histoire Romaine* 10) Montagnac.

BALLET *ET AL.* (EDS.) 2008

BALLET, P., DIEUDONNE-GLAD, N. & SALIOU C. (eds.) (2008) *La rue dans l'antiquité. Définition, aménagement, devenir*, Rennes.

BALLU 1903

BALLU, A. (1903) *Les ruines de Timgad (antique Thamugadi): nouvelles découvertes*, Paris.

BALLU 1911

BALLU, A. (1911) *Les ruines de Timgad (antique Thamugadi): sept années de découvertes 1903–1910*, Paris

BANNOS 2014

BANNOS, P. (2014) *Hidden Thruths: Potter's Field*.
http://hiddentruths.northwestern.edu/potter_field.html

BARBALACE 2003

BARBALACE, R.C. (2003) *The History of Waste*.
http://EnvironmentalChemistry.com/yogi/environmental/wastehistory.html

BARBER & BOWSHER 2000

BARBER, B. & BOWSHER, D. (2000) *The Eastern Cemetery of Roman London. Excavations 1983-1990*, London.

BARKER & LLOYD 1991

BARKER, G. & LLOYD, J. (eds.) (1991) *Roman Landscapes. Archaeological Survey in the Mediterranean Region* (*Archaeological Monographs of the British School at Rome* 2) London.

BEAL & GOYON 2002

BEAL, J.-C. & GOYON, J.-C. (eds.) (2002) Les artisans dans la ville antique (*Collection archéologie et histoire de l'Antiquité* 6) Lyon.

BEAL 2002

BEAL, J.-C. (2002) L' artisanat et la ville: relecture de quelques textes, in: **BEAL, J.-C. & GOYON, J.-C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 5-12.

BEAN 1979

BEAN, G.E. (1979) *Turkey's southern Shore*, London – New York.

BECK 2006

BECK, R. (2006) *The Religion of the Mithras Cult in the Roman Empire: Mysteries of the unconquered Sun*, Oxford.

BEDON 1998

BEDON, R. (1998) Les faubourgs des villes gallo-romaines: perspective d'ensemble, in: **BEDON, R.** (ed.) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines* (*Caesarodunum* 32) Limoges, 9-21.

BEDON (ED.) 1998A

BEDON, R. (ed.) (1998a) *Les villes et leurs faubourgs en Gaule Romaine* (*Dossiers de l'Archéologie* 237) Dijon.

BEDON (ED.) 1998B

BEDON, R. (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges.

BELKE & MERSICH 1990

BELKE K. & MERSICH N. (1990) *Phrygien und Pisidien* (*Tabula Imperii Byzantini* 7) Vienna.

BELAYCHE 2008

BELAYCHE, N. (2008) Religion et consommation de la viande dans le monde romain: des réalités voilées, in: **VAN ANDRINGA, W.** (ed.) *Sacrifices, marché de la viande et pratiques alimentaires dans les cités du monde romain. Meat: Sacrifice, Commerce and Food Preparations in the Roman Empire* (*Food & History* 5.1) Turnhout, 29-46.

BELMONTE 2008

BELMONTE, C. (2008) L'ocupació de l'extrem sud-oest del *suburbium* de *Barcino* entre els segles I-IV d.C. Les troballes del carrer d'Avinyó, *Quaderns d'arqueologia i Historia de la ciutat de Barcelona* 4, 90-105.

BELTRÁN DE HEREDIA 2010

BELTRÁN DE HEREDIA, J. (2010) La cristanización del *suburbium* de Barcino, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic. *Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 363-396.

BELTRÁN LLORIS 2006

BELTRÁN LLORIS, F. (2006) An irrigation decree from roman Spain: the *Lex Rivi Hiberiensis*, *Journal of Roman Studies* 96, 147-197.

BERARD 1961

BERARD, G. (1961) La nécropole gallo-romaine de la Calade, à Cabasse (Var), *Gallia* 19, 105-158.

BERARD 1963

BERARD, G. (1963) La nécropole gallo-romaine de la Calade, à Cabasse (Var). Deuxième campagne de fouilles (1962), *Gallia* 21, 295-306.

BERNS 1996

BERNS, C. (1996) *Untersuchungen zu den Grab- und Memorialbauten des Späten Hellenismus und der Frühen Kaizerzeit in Kleinasien* (PhD dissertation at University of Cologne).

BERNS 2003

BERNS, C. (2003) *Untersuchungen zu den Grabbauten der Früher Kaiserzeit in Kleinasien*, Bonn.

BERNS 2011

BERNS, C. (2011) The Tomb as a Node of public Representation. Intramural Burials in roman Imperial Asia Minor, in: **HENRY, O.** (ed.) *Le mort dans la ville. Pratiques, contextes et impacts des inhumations* intra-muros *en Anatolie, du début de l'Âge du Bronze à l'époque romaine* (*Actes des 2e Rencontres d'Archéologie de l'IFÉA*, 14-15 November 2011, Istanbul) Istanbul, 231-242.

BEULS *ET AL.* 2000

BEULS, I., DE CUPERE, B., VERMOERE, M., VANHECKE, L., DOUTRELEPONT, H., VRYDAGHS, L., LIBRECHT, I. & WAELKENS, M. (2000) Modern Sheep and Goat Herding near Sagalassos and its Relevance to the Reconstruction of pastoral Practices in Roman Times, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986-1989) and Excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 847-862.

BEVAN & CONOLLY 2011

BEVAN, A., & CONOLLY, J. (2011) Terraced Fields and Mediterranean Landscape Structure: an analytical Case Study from Antikythera, Greece, *Ecological Modelling* 222, 1303–1314.

BIENFAIT 2002

BIENFAIT, M. (2002) La sidérurgie en milieu urbain dans la Gaule de l'Est: réflexions sur les types d'activités pratiqués, in: **BEAL, J.-C. & GOYON, J.-C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 69-76.

BIRK 2012

BIRK, S. (2012) Carving *Sarcophagi*: Roman sculptural Workshops and their Organisation, in: **KRISTENSEN, T.M. & POULSEN, B.** (eds.) *Ateliers and Artisans in Roman Art and Archaeology* (*Journal of Roman Archaeology* Supplement 92) Porthsmouth, 13-37.

BINTLIFF & SNODGRASS 1985

BINTLIFF, J. & SNODGRASS, A.M. (1985) The Cambridge/Bradford Boeotian Expedition: the first four Years, *Journal of Field Archaeology* 12, 123-161.

BJØRNEBYE 2007

BJØRNEBYE, J. (2007) *Hic locus est felix, sanctus, piusque benignus. The Cult of Mithras in fourth Century Rome* (unpublished PhD dissertation, University of Bergen).

BOARDMAN *ET AL.* (EDS.) 2002

BOARDMAN, J., GRIFFIN, J. & MURRAY, O. (eds.) (2002) *The Oxford History of Greece and the Hellenistic World*, Oxford.

BODEL 1997

BODEL, J. (1997) Monumental *Villae* and *Villa* Monuments, *Journal of Roman archaeology* 10, 5-35.

BODEL 2000

BODEL, J. (2000) Dealing with the Dead. Undertakers, Executioners and Potters' Fields in Ancient Rome, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the Ancient City*, 128-151.

BODEL 2008

BODEL, J. (2008) From *Columbaria* to Catacombs: collective Burial in pagan and Christian Rome (Chapter 6), in: **BRINK, L. & GREEN, D.** (eds.) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York, 177-242.

BODON & RIERA 1998

BODON, G. & RIERA, I. (1998) Per uno studio delle aree suburbane di *Patauium*: considerazioni premilinari su topografia e produzione artigianale, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 277-310.

BOLLMANN 1998

BOLLMANN, B. (1998) *Römische Vereinshäuser: Untersuchungen zu den* Scholae *der römischen Berufs-, Kult- und Augustalen-Kollegien in Italien*, Mainz.

BOLJUNČIĆ 2007

BOLJUNČIĆ, J. (2007) DNA Analysis of Early Mediaeval Individuals from Zvonimirovo Burial Site in Northern Croatia: Investigation of Kinship Relationships by Using Multiplex System Amplification for Short Tandem Repeat Loci, *Croatian Medical Journal* 48, 536-546.

BORCA 2000

BORCA, F. (2000) Towns and Marshes in the ancient World, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the ancient City*, London, 74-84.

BORLENGHI 2010

BORLENGHI, A. (2010) Il *campus* in area centro-italica: tipologia e strutture di uno spazio pubblico, in: **MINISTERO PER I BENI E LE ATTIVITÀ CULTURALI** (eds.) *Bollettino di Archeologia on line* 1 (*Proceedings of the XVII. International Congress of Classical Archaeology – Meetings between Cultures in the Ancient Mediterranean*, 22-26 September 2008, Rome), 4-16.

BOTTEMA & WOLDRING 1995

BOTTEMA S. & WOLDRING, H. (1995) The Environment of classical Sagalassos: a palynological Investigation, in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos III. Report on the fourth Excavation Campaign of 1993* (*Acta Archaeologica Lovaniensia Monographiae* 7) Leuven, 327-340.

BOUET 1998

BOUET, A. (1998) Un nouvel exemple de *campus* en Gaule Narbonnaise: Vaison-la-Romaine (Vaucluse), *Revue archéologique de Narbonnaise* 31, 103-117.

BOUET 1999

BOUET, A. (1999) *Campus et juventus* dans les agglomérations secondaires des provinces occidentales, *Revue des Études Anciennes* 101 (3-4), 461-486.

BOUET 2001-2002

BOUET, A. (2001-2002) Les bâtiments thermaux et sportifs en Aquitaine, *Caesarodunum* 35-36, 57-76.

BOWMAN & WILSON (EDS.) 2012

BOWMAN, A.K. & WILSON, A. (eds.) (2012) *Settlement, Urbanization and Population*, Oxford.

BRACKE 1993

BRACKE, H. (1993) Pisidia in Hellenistic Times (334-25 B.C.), in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986-1989) and Excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 15-29.

BRADLEY 2002

BRADLEY, M. (2002) It all comes out in the Wash: looking harder at the Roman Fullonica, *Journal of Roman Archaeology* 15.1, 20-44.

BRAEKMANS 2011

BRAEKMANS, D. (2011) *The Archaic, Classical and Hellenistic Ceramics in the later Territory of Sagalassos and Düzen Tepe. The petrographic and geochemical Evidence* (unpublished PhD dissertation at University of Leuven).

BRAEKMANS *ET AL.* 2011

BRAEKMANS, D., NEYT, B., DEGRYSE, P., ELSEN, J., POBLOME, J. & WAELKENS, M. (2011) Mapping regional ceramic Fabrics in Sagalassos (SW-Turkey) from 500BC-700AD, in: **TURBANTI-MEMMI, I.** (eds.) *Proceedings of the 37th International Symposium of Archaeometry* (12-16 May 2008, Siena) New York, 33-40.

BRAMANTI 2013

BRAMANTI, B. (2013) The Use of DNA Analysis in the Archaeology of Death and Burial, in: **TARLOW, S. & NILSSON STUTZ, L.** (eds.) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford, 99-122.

BRANDT *ET AL.* (EDS.) 2015

BRANDT, J.R., PRUSAC, M. & ROLAND, H. (eds.) (2015) *Death and changing Rituals. Function and Meaning in ancient funerary Practices*, Oxford & Philadelphia.

BRANIGAN *ET AL.* 2002

BRANIGAN, K., PAPADOTOS, Y. & WYNN, D. (2002) Fingerprints on Early Minoan Pottery: A Pilot Study, *The Annual of the British School at Athens* 97, 49-53.

BREMMER 2015

BREMMER, J.N. (2015) Preface: the Materiality of Magic, in: **BOSCHUNG D. & BREMMER, J.N.** (eds.) *The Materiality of Magic* (*Morphomata* 20), Paderborn, 7-20.

BRINK & GREEN (EDS.) 2012

BRINK, L. & GREEN, D. (eds.) (2012) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York.

BRIZZOLARA 2005

BRIZZOLARA, A.M. (2005) Le necropoli e i monumenti funerari, in: **SASSATELLI, G. & DONATI, A.** (eds.) *Bologna nell'antichità* (*Storia di Bologna* 1), Bologna, 515-534.

BROGIOLO 2010

BROGIOLO, G.P. (2010) Città e suburbia tra tardoantico e altomedioevo in Italia settentrionale, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic. *Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 79-94.

BRU *ET AL.* (EDS.) 2009

BRU, H., KIRBIHLER, F. & LEBRETON, S. (eds.) (2009) *L'Asie Mineure dans l'Antiquité. Échanges, populations et territoires* (*Actes du colloque international*, 21-22 October 2005, Tours), Rennes.

BRUHN *ET AL.* (EDS.) 2005

BRUHN, J., CROXFORD, B. & GRIGOROPOULOS, D. (eds.) (2005) *TRAC 2004* (*Proceedings of the fourteenth annual Theoretical Roman Archaeology Conference*, April 2004, Durham) Oxford.

BRUNDRETT 2011

BRUNDRETT, N. (2011) Roman Tomb Gardens: the Construction of sacred commemorative Landscapes, *The Brock Review* 11 (2), 51-69.

BRUNET 1990

BRUNET, M. (1990) Terrasses de cultures antiques: l'exemple de Délos, Cyclades, in: **PROVANSAL, M.** (ed.) *L'Agriculture en terrasses sur les versants méditerranéens. Histoire, consequences sur l'évolution du milieu* (*Mediterranée* special issue 71), Aix-en-Provence, 5-11.

BRUNT 1980

BRUNT, P.A. (1980) Free Labour and public Works at Rome (*Journal of Roman Studies* 70) 81-100.

BUORA & ROBERTO 2010

BUORA, M. & ROBERTO, V. (2010) New Work on the Plan of Aquileia based on aerial Photographs and a GIS Platform, *Journal of Roman Archaeology* 23, 320-334.

BURFORD 1972

BURFORD, A. (1972) *Craftsmen in Greek and Roman Society*, Cornell.

BUZÓN ALARCÓN 2010

BUZÓN ALARCÓN, M. (2010) Nuevos datos acerca del área suburbana de *Caura*, *Romula* 9, 201-224.

BUZÓN ALARCÓN 2011

BUZÓN ALARCÓN, M. (2011) Reflexiones acerca del suburbio en la ciudad romana, *Romula* 10, 7-42.

- C -

CAMPBELL 2008

CAMPBELL, V.L. (2008) Stopping to smell the Roses: Garden Tombs in Roman Italy*, Arctos* 42, 31-43.

CAMERON 1993

CAMERON, A. (1993) *The Mediterranean world in late Antiquity AD 395–600*, London – New York.

CAMPANELLI 2000

CAMPANELLI, A. (2000) Cinte murarie e fasce suburbane in alcune città romane d'Abruzzo, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 81-94.

CAMPOS 2010

CAMPOS, J.M. (2010) Los suburbios de *Onoba Aestuaria*, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 267-288.

CAMPOS CARRASCO *ET AL.* 2013

CAMPOS CARRASCO, J.M. BERMEJO MELÉNDEZ, J. & MEDINA ROSALES, N. (2013) La ciudad de arucci y turobriga y la implantación de roma en el norte del territorio onubense, in: **DE HARO ORDÓNEZ, J., GARCÍA RINCÓN, J.M., GÓMEZ TOSCANO, F. & LINARES CATELA, J.A.** (eds.) *Arqueología en la provincia de Huelva. Homenaje a Javier Rastrojo Lunar*, Huelva, 221-231.

CANTARELLA & LAZZARINI 2000

CANTARELLA, E. & LAZZARINI, S. (2000) Disciplina generale, prassi locale e casi di specie nella gestione del pomerium a Pompei, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 221-224.

CASTOLDI 2000

CASTOLDI, M. (2000) La fascia suburbana nelle città greche di Sicilia (VIII-V sec. a.C.), in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 25-38.

CAVALIER 2012

CAVALIER, L. (2012) Portiques en bordure des agoras d'Asie Mineure à l'époque hellénistique et à l'époque impériale, in: **CAVALIER, L., DESCAT, R. & DES COURTILS, J.** (eds.) *Basiliques et agoras de Grèce et d'Asie Mineure*, Bordeaux, 241-256.

CARME BELARTE & PLANA MALLART (EDS.) 2012

CARME BELARTE, M. & PLANA MALLART, R. (eds.) (2012) *Le paysage périurbain en Méditerranée occidentale pendant la Protohistoire et l'Antiquité* (*Actes du Colloque international de l'Institut Catalan d'Archéologie Classique*, 6-8 May 2009, Tarragona) Tarragona.

CARR 1995

CARR, C. (1995) Mortuary Practices: their social, philosophical-religious, circumstantial, and physical Determinants, *Journal of Archaeological Method and Theory* 2 (2), 105–200.

ÇELGIN 1990

ÇELGIN, A.V. (1990) *Termessos Kenti Nekropol'leri* (unpublished PhD dissertation, University of Istanbul).

ÇELGIN 1994

ÇELGIN, A.V. (1994) Termessos ve çevresinde nekropol ve epigrafya araştırmaları: 1975-1991 yılları arasında yapılan çalışmaların toplu sonuçlarına kısa bir bakış, *Anadolu Araştırmaları* 13, 153-175.

ÇEVIK 2006

ÇEVIK, N. (2006) The social Structure as reflected through the Necropolii of Trebenna, in: **DÖRTLÜK, K., VARKIVANÇ, B., KAHYA, T., DES COURTILS, J., DOĞAN ALPARSLAN, M. & BOYRAZ, R.** (eds.) *III*rd *Symposium on Lycia Proceedings*, Vol. 1 (7-10 November 2005, Antalya), Antalya, 175-207.

CHAMPLIN 1982

CHAMPLIN, E. (1982) The *Suburbium* of Rome, *American Journal of Ancient History* 7, 97-117.

CHANT (ED.) 1999

CHANT, C. (ed.) (1999) *The pre-industrial Cities and Technology Reader*, London - New York.

CHAPMAN 2003

CHAPMAN, R. (2003) *Archaeologies of Complexity*, London.

CHARLIER 1993A

CHARLIER, C. (1993a) Sagalassos. Campagnes 1989 et 1990. Quelques observations anthropologiques, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986-1989) and Excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 209-224.

CHARLIER 1993B

CHARLIER, C. (1993b) Étude anthropologique des crânes d'époque romaine, in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos II. Report on the third Excavation Campaign of 1992* (*Acta Archaeologica Lovaniensia Monographiae* 6) Leuven, 261-268.

CHARLIER 1997

CHARLIER, C. (1997) Les urnes à incineration de Sagalassos. Une étude anthropologique, in: **WAELKENS, M. & POBLOME, J.** (eds.) (1997) *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995* (*Acta Archaeologica Lovaniensia Monographiae* 9) Leuven, 553-569.

CHEVALIER 1997

CHEVALLIER, R. (1997) *Les voies romaines*, Paris.

CHEVALIER 1998A

CHEVALLIER, R. (1998a) L'iconographie antique des faubourgs, *Dossiers de l'Archéologie* 237, 84-87.

CHEVALIER 1998B

CHEVALLIER, R. (1998b) La problématique des *suburbia*, in: **BEDON, R.** (ed.) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges 21-34.

CHILDE 1944

CHILDE, V. G. (1944) *Progress and Archaeology,* London.

CHIODI 2000

CHIODI, G. (2000) Tra la *civitas* e il *comitatus*: i suburbi nella dottrina di diritto comune, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 9-24.

CHISHOLM 1972

CHISHOLM, M. (1972) *Rural Settlement and Land Use: an Essay in Location*, London.

CIOBANU 1998

CIOBANU, R. (1998) *Canavae*, *uici* et *castella* en Dacie romaine, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 349-364.

CIURANA PRAST 2011

CIURANA PRAST, J. (2011) Prácticas y rituales en las áreas funerarias del suburbio oriental de *Tarraco* (Chapter 5), in: **ANDREU PINTADO, J., ESPINOSA ESPINOSA, D. & SIMONE, P.** (eds.) Mors omnibus instat: *aspectos arqueológicos, epigráficos y rituales de la muerte en el Occidente romano*, Madrid, 331-350.

CIURANA & MACIAS 2010

CIURANA, J. & MACIAS, J.M. (2010) La ciudad extensa: usos y paisajes suburbanos de *Tarraco*, in: **VAQUERIZO, D.** (ed.) (2010) *Las áreas suburbanas en la Ciudad Histórico. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 309-334.

CLAEYS 2004

CLAEYS, J. (2004) *Coins in Context. Sagalassos, a Case Study* (unpublished master thesis, University of Leuven).

CLAEYS 2013

CLAEYS, J. (2013) Marginale archeologie? De Oostelijke Voorstad van Sagalassos (Zuidwest-Turkije), *Tijdschrift voor Mediterrane Archeologie* 50, 23-29.

CLAEYS & POBLOME 2012A

CLAEYS, J. & POBLOME, J. (2012a) Doğu Dış Mahalle'de Yapılan Kazı Çalışmaları: F Bölgesi, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos 2011 Kazı ve Restorasyon Sezonları* (*XXXIV. Kazı Sonuçları Toplantısı*, Vol. 3, 28 May – 1 June 2012, Çorum) Ankara, 140-141.

CLAEYS & POBLOME 2012B

CLAEYS, J. & POBLOME, J. (2012b) Doğu Dış Mahalle'de Yapılan Kazı Çalışmaları: PQ 2, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos 2011 Kazı ve Restorasyon Sezonları* (*XXXIV. Kazı Sonuçları Toplantısı*, Vol. 3, 28 May – 1 June 2012, Çorum) Ankara, 141.

CLAEYS & POBLOME 2012C

CLAEYS, J. & POBLOME, J. (2012c) Sagalassos'un Güneyi: Çatal Oluk 2 Bizans Kilise Alanının Kazı Çalışmaları, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos 2011 Kazı ve Restorasyon Sezonları* (*XXXIV. Kazı Sonuçları Toplantısı*, Vol. 3, 28 May – 1 June 2012, Çorum) Ankara, 146.

CLAEYS *ET AL.* 2012

CLAEYS, J., POBLOME, J., TALLOEN, P., MURPHY, E., VAN HAELST, S., ÖZKILIÇ, M., WAELKENS, M. & DEGRYSE, P. (2012) I.2. De Oostelijke Voorstad, een multifunctionele wijk gonzend van activiteit met meer dan rookpluimen van ovens alleen, in: **WAELKENS, M. & HET SAGALASSOS TEAM** (eds.) *Sagalassos - Jaarboek 2011-2012. Twee jaren van succes. De onderzoeks- en opgravingscampagnes in 2011 en 2012*, Leuven, 12-32.

CLAEYS & POBLOME 2013A

CLAEYS, J. & POBLOME, J. (2013a) Alan F, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 248-249.

CLAEYS & POBLOME 2013B

CLAEYS, J. & POBLOME, J. (2013b) Alan PQ 1: *Naiskos* Mezarı, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 249.

CLAEYS & POBLOME 2014

CLAEYS, J. & POBLOME, J. (2014) Excavations at site PQ1, in: **WAELKENS, M. *ET AL.*** (eds.) *The 2013 Excavations and Restoration Activities at Sagalassos* (*XXXVI. Kazı Sonuçları Toplantısı*, Vol. 2, 2-6 June 2014, Gaziantep) Ankara, 46-47.

CLARK 2009

CLARK, P. (2009) *European Cities and Towns, 400-2000*, Oxford.

CLARKE 1979

CLARKE, G. (1979) *Pre-Roman and Roman Winchester*, Part 2: *The Roman Cemetery at Lankhills,* (*Winchester Studies* 3), Oxford.

CLARKE 2006

CLARKE, J.R. (2006) *Art in the Lives of ordinary Romans. Visual Representation and non-Elite Viewers in Italy, 100 B.C.-A.D. 315*, Berkeley.

CLARKE *ET AL.* 1882

CLARKE, J.T., LAWTON, W.C. & DILLER, J.S. (1882) *Report on the Excavations at Assos, 1881*, Boston.

CLAUSS 2012

CLAUSS, M. (2012) *Mithras. Kult und Mysterium*, Darmstadt-Mainz.

CLOPPET 1998

CLOPPET, C. (1998) Rapports ville-routes dans les *suburbia*, *Dossiers de l'Archéologie* 237, 14-19.

COARELLI 1981

COARELLI, F. (1981) *Dintorni di Roma*, Rome.

COARELLI *ET AL.* 1989

COARELLI, F., ARTHUR, P. CODAGNONE, A., GUIDOBALDI, M.P., PESANDO, F., ROSSI, G. & TROTTA, F. (1989) *Minturnae*, Rome.

COARELLI & PATTERSON (EDS.) 2009

COARELLI, F. & PATTERSON, H. (eds.) (2009) Mercator Placidissimus. *The Tiber Valley in Antiquity. New Research in the upper and middle River Valley*, Rome.

COATES-STEPHENS 2004

COATES-STEPHENS, R. (2004) *Porta Maggiore: Monument and Landscape: Archaeology and Topography of the southern Esquiline from the Late Republican Period to the Present*, Rome.

COLE 2004

COLE, S.G. (2004) *Landscapes, Gender and ritual Space: the ancient Greek Experience*, Berkeley.

CONGES *ET AL.* 1992

CONGES, G., BRUN, J.-P., ROTH-CONGES, A., BERTUCCHI, G., BREMOND, J. AND PITON, J. (1992) L'Évolution d'un quartier suburbain d'Arles: l'Esplanade, *Provence Historique* 42, 119-133.

CORMACK 2004

CORMACK, S. (2004) *The Space of Death in Roman Asia Minor*, Vienna.

CORSI ACCEPTED

CORSI, C. (accepted) Understanding the Town-Territory Relationship: theoretical Frameworks, methodological Issues and the devilish Dog. A Case-Study from Lusitania, in: **CLAEYS, J., TAELMAN, D., VERMEULEN, F. & POBLOME, J.** (eds.) *The Space between: current Investigations into Roman* Suburbia*, s.l.*

CORSI & VERMEULEN (EDS.) 2012

CORSI, C. & VERMEULEN, F. (eds.) (2012) *Ammaia I. A Romano-Lusitanian Townscape revealed* (*Archaeological Reports Ghent University* 8), Ghent.

COSTIN 1991

COSTIN, C.L. (1991) Craft Specialization: Issues in Defining, Documenting, and Explaining the Organization of Production, *Archaeological Method and Theory* 3, 1-56.

COSTIN 2001

COSTIN, C.L. (2001) Craft Production Systems, in: **FEINMAN, G.M. & PRICE, T.D.** (eds.) *Archaeology at the Millennium*, New York, 273-327.

COUCH *ET AL.* 2007A

COUCH, C., LEONTIDOU, L. & K.-O. ARNTSBERG (2007) Introduction: Definitions, Theories and Methods of comparative Analysis, in: **COUCH, C., LEONTIDOU, L. & PETCHEL-HELD, G.** (eds.) *Urban Sprawl in Europe. Landscapes, Land-Use Change and Policy*, Oxford, 3-38.

COUCH *ET AL.* 2007B

COUCH, C., LEONTIDOU, L. & PETCHEL-HELD, G. (eds.) (2007) *Urban Sprawl in Europe. Landscapes, Land-Use Change and Policy*, Oxford.

COWGILL 2004

COWGILL, G. (2004) Origins and Development of Urbanism: archaeological Perspectives, *Annual Review of Anthropology* 33, 525-49.

COYLER 1975

COYLER, C. (1975) Excavations at Lincoln. First Interim Report, 1970-1972: The Western Defences of the Lower Town, *Antiquaries Journal* 55.2, 227 -266.

CRAWFORD (ED.) 1996

CRAWFORD, M.H. (ed.) (1996) *Roman Statutes,* Vol. 1 (*Bulletin of the Institute of Classical Studies* 64), London.

CRAWLEY 1911

CRAWLEY, A.E. (1911) Cursing and Blessing, in: **HASTINGS J. & SELBIE, J.A.** (eds.) *Encyclopaedia of Religion and Ethics*, New York, 367-374.

CREMER 1992

CREMER, M. (1992) *Hellenistisch-römische Grabstelen im nordwestlichen Kleinasien.* Vol. 2: *Bithynien*, (*Asia Minor Studien* 4.2) Bonn.

CRUMMY 1983

CRUMMY, N. (1983) *The Roman small Finds from Excavations in Colchester 1971-9* (*Colchester Archaeological Report* 2), Colchester.

- D –

DANNELL 2002

DANNELL, G.B. (2002) Law and Practice: further Thoughts on the Organization of the Potteries at la Graufesenque, in: **GENIN, M. & VERNHET, A.** (eds.) *Céramiques de la Graufesenque et autres productions d'époque romaine. Nouvelles recherches,* Montagnac, 211-242.

DARBYSHIRE *ET AL.* 2000

DARBYSHIRE, G., MITCHELL, S. & VARDAR, L. (2000) The Galatian Settlement in Asia Minor, Anatolian Studies 50, 75-97.

DARCQUE *ET AL.* (EDS.) 2014

DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M. (eds.) (2014) *Proasteion. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris.

DARK 2004

DARK, K. (2004) Houses, Streets and Shops in Byzantine Constantinople from the fifth to the twelfth Centuries, *Journal of Medieval History* 30, 83–107.

DAVIDOVICH *ET AL.* 2012

DAVIDOVICH, U. PORAT, N., GADOT, Y., AVNI, Y. & LIPSCHITS, O. (2012) Archaeological Investigations and OSL Dating of Terraces at Ramat Rahel, Israel, *Journal of Field Archaeology* 37 (3), 192-208.

DAVIES (ED.) 2005

DAVIES, D. (ed.) (2005) *Encyclopaedia of Cremation*, Ashgate.

DE BERLANGA 1876

DE BERLANGA, R. (1876) *Los nuevos bronces de Osuna*, Madrid.

DE CUPERE 2001

DE CUPERE, B. (2001) *Animals at ancient Sagalassos. Evidence of faunal Remains* (*Studies in Eastern Mediterranean Archaeology* 4) Turnhout.

DE CUPERE *ET AL.* 1993

DE CUPERE, B., VAN NEER, W. & LENTACKER, A. (1993) Some Aspects of the Bone-Working Industry in Roman Sagalassos, in: Waelkens, M. & Poblome, J. (eds.) *Sagalassos II* (*Acta Archaeologica Lonvaniensia Monographiae* 6) Leuven, 269-278.

DE CUPERE *ET AL.* 2009

DE CUPERE, B., THYS, S., VAN NEER, W., ERVYNCK, A., CORREMANS, M. & WAELKENS, J. (2009) Eagle Owl (Bubo bubo) Pellets from Roman Sagalassos (SW Turkey): Distinguishing the Prey Remains from Nest and Roost Sites, *International Journal of Osteoarchaeology* 19, 1-22.

DE CUPERE *ET AL.* 2013

DE CUPERE, B., HAMILTON-DYER, S. & POBLOME, J. (2013) *Communal Dining (?) in the Eastern Suburbium of ancient Sagalassos, Turkey. The evidence of Animal Remains and material Culture* (unpublished poster presentation).

DE CUPERE *ET AL.* 2015

DE CUPERE, B., POBLOME, J., HAMILTON-DYER, S. & VAN HAELST, S. (2015) Communal Dining in the Eastern Suburbium of ancient Sagalassos. The Evidence of Animal Remains and Material Culture, *HEROM. Journal on Hellenistic and Roman Material Culture* 4 (2), 173-197.

DE CUPERE *ET AL.* IN PRESS

DE CUPERE, D., FRÉMONDEAU, D., KAPTIJN, E., MARINOVA, E., POBLOME, J., VANDAM, R. & VAN NEER, W. (in press) Subsistence Economy and Land Use Strategies in the Burdur Province (SW Anatolia) from Prehistory to the Byzantine Period, *Quaternary International*, s.l.

De Graaf accepted

De Graaf, P. (accepted) The *Suburbium* of Rome in a comparative Context within Early Imperial Roman Italy: Settlement Pattern, Land Use and Demography, in: **Claeys, J., Taelman, D., Vermeulen, F. & Poblome, J.** (eds.) *The Space between: current Investigations into Roman* Suburbia, s.l.

Degeest 2000

Degeest, R. (2000) *The common Wares of Sagalassos. Typology and Chronology* (*Studies in Eastern Mediterranean Archaeology* 3) Leuven.

Degeest 2002

Degeest, R. (2002) Continuity and Discontinuity in Early Imperial Sagalassos. The Picture of Common Ware Ceramics, in: **Berns, C.** (ed.) *Patris und Imperium: kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasiens in der frühen Kaiserzeit*, 289-294.

DeGiorgi accepted

DeGiorgi, A.U. (accepted) A View from Daphne. The Evolution of a provincial Suburb, in: **Claeys, J., Taelman, D., Vermeulen, F. & Poblome, J.** (eds.) *The Space between: current Investigations into Roman* Suburbia, s.l.

Degryse 2001

Degryse, P. (2001) *Mineral Resources and their Use on the Territory of Sagalassos (Southwest Turkey)* (unpublished PhD dissertation, University of Leuven).

Degryse (ed.) 2007

Degryse, P. (ed.) (2007) *Quarryscape Report. The Sagalassos Quarry Landscape: bringing Quarries in Context* (Work Package 3, Deliverable No. 3) (internal report INCO-CT-2005-015416-Project QuarryScapes).

Degryse (ed.) 2014

Degryse, P. (ed.) (2014) *Glass Making in the Greco-Roman World. Results of the ARCHGLASS Project* (*Studies in Archaeological Sciences* 4), Leuven.

Degryse & Waelkens (eds.) 2008

Degryse, P. & Waelkens, M. (eds.) (2008) *Sagalassos VI. Geo- and Bio-archaeology at Sagalassos and in its Territory*, Leuven.

Degryse *et al.* 2003

Degryse, P., Poblome, J., Donners, K., Deckers, J. & Waelkens, M. (2003) Geoarchaeological Investigations of the "Potters' Quarter" at Sagalassos, Southwest Turkey, *Geoarchaeology* 18.2, 255-281.

Degryse *et al.* 2004

Degryse, P., Muchez, P., De Cupere, B. & Waelkens, M. (2004) Statistical Treatment of Trace Element Data from modern and ancient Animal Bone: Evaluation of Roman and Byzantine environmental Pollution, *Analytical Letters* 37.13, 2819-2834.

Degryse *et al.* 2005

Degryse, P., Schneider, J., Poblome, J., Muchez, P., Haack, U. & Waelkens, M. (2005) Geochemical study of Roman to Byzantine Glass from Sagalassos, Southwest Turkey, *Journal of Archaeological Science* 32, 287-299.

Degryse *et al.* 2006

Degryse, P., Muchez, P. & Waelkens, M. (2006) Geology and Archaeology of late Hellenistic Limestone Quarries at Sagalassos, *Marmora* 2, 9-20.

Degryse *et al.* 2007

Degryse, P., Schneider, J., Kellens, N., Waelkens, M. & Muchez, P. (2007) Tracing the Resources of Iron Working at ancient Sagalassos (South-West Turkey): a combined Lead and Strontium Isotope Study on Iron Artefacts and Ores, *Archaeometry* 49, 75-86.

Degryse *et al.* 2008

Degryse, P., Poblome, J., Viaene, W., Kucha, H., Ottenburgs, R., Waelkens, M. & Naud, J. (2008) Provenancing the Slip of Sagalassos Red Slip Ware, in: **Degryse, P. & Waelkens, M.** (eds.) *Sagalassos VI. Geo- and Bio-archaeology at Sagalassos and in its Territory*, Leuven, 255-260.

Degryse *et al.* 2009

Degryse, P., Torun, E., Corremans, M., Heldal, T., Bloxam, E.G. & Waelkens, M. (2009) Preservation and Promotion of the Sagalassos Quarry and Town Landscape, Turkey, in: **Abu-Jaber, N., Bloxam, E.G., Degryse, P. & Heldal, T.** (eds.) *QuarryScapes: ancient Stone Quarry Landscapes in the Eastern Mediterranean* (Geological Survey of Norway Special Publication 12) 99–104.

Deichmann 1975

Deichmann, F.W. (1975) *Die Spolien in der spätantiken Architektur*, München.

De Jong 2010

De Jong, L. (2010) Performing Death in Tyre: the Life and Afterlife of a Roman Cemetery in the Province of Syria, *American Journal of Archaeology* 114, 597-630.

Delano Smith 1996

Delano Smith, C. (1996) Where was the 'Wilderness' in Roman times?, in: **Shipley, G. & Salmon, J.** (eds.) *Human Landscapes in Classical Antiquity. Environment and Culture* (*Leicester-Nottingham Studies in Ancient Society* 6), London – New York, 154-179.

DELEMEN 1999

DELEMEN, I. (1999) *Anatolian Rider-Gods: a Study on Stone Finds from the Regions of Lycia, Pisidia, Isauria, Lycaonia, Phrygia, Lydia and Caria in the Late Roman Period* (*Asia Minor Studien* 35) Bonn.

DE LAET 2007

DE LAET, V. (2007) *Evolution and Reconstruction of the geo-archaeological Landscape in the Territory of Sagalassos (SW Turkey): Integration of geomorphic, GIS and remote sensing Methods* (unpublished PhD dissertation, University of Leuven).

DE LIGT 1993

DE LIGT, L. (1993) *Fairs and Markets in the Roman Empire: economic and social Aspects of periodic Trade in a pre-industrial Society*, Amsterdam.

DEMAROLLE 2002

DEMAROLLE, J.-M. (2002) Quatre chefs-lieux de Gaule du nord-est et leurs artisans au Haut-Empire: état des lieux, in: **BEAL, J.-C. & GOYON, J.C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 152-164.

DE PLANHOL 1958

DE PLANHOL, X. (1958) *De la plaine pamphylienne aux lacs pisidiens. Nomadisme et vie paysanne* (*Bibliothèque archéologique et historique de l'institut français d'archéologie d'Istanbul* 3) Paris.

DE PURY-GYSEL 2011

DE PURY-GYSEL, A. (2011) *Aventicum* (Avenches), Capital of the *Helvetii*: a History of Research, 1985-2010. Part I. Early Roman *Aventicum* and its Origins, *Journal of Roman Archaeology* 24, 7-46.

DERU 2005

DERU, X. (2005) Les structures de l'atelier de potiers gallo-romain des "Quatre Bornes" aux Rues-des-Vignes (Nord). Bilan provisoire, in: **POLFER, M**. (ed.) *Artisanat et économie romaine: Italie et provinces occidentales de l'Empire* (*Actes du 3e Colloque International sur l'artisanat romain*, 14-16 October 2004, Erpeldange) (*Monographies instrumentum* 32) Montagnac, 139-146.

DE RUYT 2002

DE RUYT, C. (2002) Boulangers et foulons d'Ostie à l'époque impériale. Quelques réflexions sur l'implantation de leurs ateliers et sur leurs fonctions précises dans la ville portuaire, in: **BEAL, J.-C. & GOYON, J.C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 49-53.

DESCOEUDRES (ED.) 2001

DESCOEUDRES, J.P. (ed.) (2001) Ostia: port et portique de la Rome antique, Geneva.

DE VAUX 1973

DE VAUX, R. (1973) *Archaeology and the Dead Sea Scrolls*, Oxford.

DEVIJVER & VAN WONTERGHEM 1984

DEVIJVER, H. & VAN WONTERGHEM, F. (1984) Der '*Campus*' der römischen Städte in Italia und im Westen, *Zeitschrift für Papyrologie und Epigraphik* 54, 195-206.

DEVIJVER & VAN WONTERGHEM 1994

DEVIJVER, H. & VAN WONTERGHEM, F. (1994) The '*Campus*' in the urban Organisation of Africa and Sardinia: two Examples, Carthage and Carales, in: **MASTINO, A. & RUGGERI, P.** (eds.) *Africa romana: atti del X convegno di studio*, vol. 2 (11-13 December 1992, Oristano) Sassari, 1035-1060.

DEVIJVER 1993

DEVIJVER, H. (1993) The Inscriptions of the Neon-Library of Roman Sagalassos, in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos II. Report on the third Excavation Campaign of 1992* (*Acta Archaeologica Lovaniensia Monographiae* 6) Leuven, 107-124.

DEVIJVER 1997

DEVIJVER, H. (1997) Local Elite, Equestrians and Senators: a social History of Roman Sagalassos, *Ancient Society* 27, 105-162.

DIRIX 2011

DIRIX, K. (2011) *Geochemical Research in the PQ: preliminary Results* (unpublished internal report).

DIRIX 2014

DIRIX, K. (2014) *Geochemical Soil Survey as a Proxy for ancient human Activity at Sagalassos* (unpublished PhD dissertation, University of Leuven).

DIRIX *ET AL.* 2013A

DIRIX, K., MUCHEZ, P, DEGRYSE; P., MUŠIČ, B. & POBLOME, J. (2013a) Integrating multi-element geochemical and magnetic Survey at ancient Sagalassos (Southwest Turkey): anthropogenic versus natural Anomalies, *Archaeological Prospection* 20, 233-247.

DIRIX *ET AL.* 2013B

DIRIX, K., MUCHEZ, P., DEGRYSE, P., KAPTIJN, E., MUŠIČ, B. VASSILIEVA, E. & POBLOME, J. (2013b) Multi-Element Soil Prospection aiding geophysical and archaeological Survey on an archaeological Site in suburban Sagalassos (SW-Turkey), *Journal of Archaeological Science* 40, 2961-2970.

DIXON 2001

DIXON, S. (2001) *Reading Roman Women. Sources, Genres and real Life*, London.

DONAHUE 2004

DONAHUE, J.F. (2004) *The Roman Community at Table during the Principate*, Ann Arbor.

DONI 2009

DONI, C. (2009) The Pisidians: from their Origin to their western Expansion, in: **BRU, H., KIRBIHLER, F. & LEBRETON, S.** (eds.) *L'Asie Mineure dans l'Antiquité. Échanges, populations et territoires* (*Actes du colloque international*, 21-22 October 2005, Tours), Rennes, 213-227.

DRAYCOTT 2010

DRAYCOTT, C. (2010) *Dining & Death: interdisciplinary Perspectives on the 'Funerary Banquet' in ancient Art, Burial and Belief* (25-26 September 2010, Oxford), unpublished conference report.

DUNAND 1973

DUNAND, F. (1973) *Le culte d'Isis dans le bassin oriental de la Méditerranée*, Vol. 3, *Le culte d'Isis en Asie Mineure. Clergé et rituel des sanctuaires isiaques* (*Études préliminaires aux réligions orientales dans l'empire romain* 26/2) Leiden.

DUNBABIN 1999

DUNBABIN, K.M.D. (1999) *Mosaics of the Greek and Roman World*, Cambridge.

DUNBABIN 2003

DUNBABIN, K.M.D. (2003) *The Roman Banquet. Images of Conviviality*, Cambridge.

DUNBABIN & SLATER 2011

DUNBABIN, K.M.D. & SLATER, W.J. (2011) Roman Dining, in: **PEACHIN, M.** (ed.) *The Oxford Handbook of social Relations in the Roman World*, Oxford, 438-466.

DUNCAN-JONES 1982

DUNCAN-JONES, R. (1982) *Economy of the Roman Empire: quantitative Studies*, Oxford.

DUPONT 2002

DUPONT, P. (2002) L'implantation des complexes artisanaux dans les cités nord-pontiques: quelques aspects, in: **BEAL, J.-C. & GOYON, J.C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6), 39-47.

DUPONT 2014

DUPONT, P. (2014) Ateliers périurbains du Pont-Euxin à l'époque grecque: quelques aspects, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) *Proasteion. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 193-200.

DUSINBERRE 2013

DUSINBERRE, E.R.M. (2013) *Empire, Authority and Autonomy in Achaemenid Anatolia*, Cambridge.

- E -

EASTWOOD *ET AL.* 1998

EASTWOOD, E.J., ROBERTS, N. & LAMB, H.F. (1998) Palaeoecological and Archaeological Evidence for Human Occupance in Southwest Turkey: The Beyşehir Occupation Phase, *Anatolian Studies* 48, 69-86.

ECK 1987

ECK, W. (1987) Römische Grabinschriften. Aussageabsicht und Aussagefähigkeit im funerären Kontext, in: **VON HESBERG, H. & ZANKER, P.** (eds.) *Römische Gräbertrassen: Selbstdarstellung, Status, Standard*, Munich, 61–83.

ECK 2013

ECK, W. (2013) Die Dedikation des Apollo Klarios unter Proculus, *legatus Augusti pro praetore Lyciae-Pamphyliae* unter Antoninus Pius, in: **POBLOME, J.** (ed.) *Exempli Gratia. Sagalassos, Marc Waeklens and interdisciplinary Archaeology*, Leuven, 43-50.

EICH & EICH 2012

EICH, A. & EICH, P. (2012) Ein neues Silberamulett aus Sagalassos, *Rivista di Filologia e Istruzione Classica* 140, 5-19.

EKENGREN 2013

EKENGREN, F. (2013) Contextualizing Grave Goods: theoretical Perspectives and Methodological Implications, in: **TARLOW, S. & NILSSON STUTZ, L.** (eds.) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford, 173-194.

EKROTH 2008

EKROTH, H. (2008) Meat in ancient Greece: sacrificial, sacred or secular?, in: **VAN ANDRINGA, W.** (ed.) *Sacrifices, marché de la viande et pratiques alimentaires dans les cités du monde romain. Meat: Sacrifice, Commerce and Food Preparations in the Roman Empire* (*Food & History* 5.1) Turnhout, 249-272.

EMMERSON 2010

EMMERSON, A.L.C. (2010) Reconstructing the funerary Landscape of Pompeii's Porta Stabia, *Rivista di Studi Pompeiani* 21, 77-86.

EMMERSON 2012

EMMERSON, A.L.C. (2012) *Repopulating an 'abandoned' Suburb: the Case of Pompeii's Tombs* (non-published presentation at the 113th Annual Meeting of the Archaeological Institute of America, 5-8 January, 2012).

EMPEREUR & NENNA 2001

EMPEREUR, J.-Y. & NENNA, M.D. (2001) *Nécropolis 1. Tombes B1 B2, B3, B8* (*Études alexandrines* 5), Cairo.

EMPEREUR & NENNA 2003

EMPEREUR, J.-Y. & NENNA, M.D. (2003) *Nécropolis 2* (*Études alexandrines* 7), Cairo.

ERIKSSON 2013

ERIKSSON, G. (2013) Stable Isotope Analysis of Humans, in: **TARLOW, S. & NILSSON STUTZ, L.** (eds.) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford, 123-146.

ERRINGTON 2008

ERRINGTON, R.M. (2008) *A History of the Hellenistic World 323 - 30 BC*, Malden.

ERSKINE (ED.) 2005

ERSKINE, A. (ed.) (2005) *A Companion to the Hellenistic World* (paperback edition), Oxford.

ERSKINE & LLEWELLYN-JONES (EDS.) 2011

ERSKINE, A. & LLEWELLYN-JONES, L. (eds.) (2011) *Creating a Hellenistic World*, Oxford.

ESMONDE CLEARY 1985

ESMONDE CLEARY, S. (1985) The Quick and the Dead. Suburbs, Cemeteries, and the Town, in: **GREW, F. & HOBLEY, B.** (eds.) *Roman Urban Topography in Britain and the Western Empire*, London, 74-77.

ESMONDE CLEARY 1987

ESMONDE CLEARY, S. (1987) *Extra-Mural Areas of Romano-British Towns* (*BAR British Series* 169) Oxford.

ESMONDE CLEARY 2005

ESMONDE CLEARY, S. (2005) Beating the Bounds: Ritual and the Articulation of urban Space in Roman Britain, in: **MACMAHON, A. & PRICE J.** (eds.) (2005) *Roman working Lives and urban Living*, Oxford, 1-17.

ESPOSITO 2014

ESPOSITO, A. (2014) Ateliers de potiers et choix du lieu d'implantation en Grande-Grèce et en Sicile: bilan de la recherche, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) *Proasteion. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 201-221.

ETIENNE (ED.) 2010

ETIENNE, R. (ed.) (2010) *La Méditerranée au VII^e^ siècle av. J.-C. Essais d'analyses archéologiques* (*Travaux de la Maison René-Ginouvès* 7), Paris.

ETIENNE 2014

ETIENNE, R. (2014) La notion de *proasteion* dans les textes grecs, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) *Proasteion. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 13-27.

EVELYN-WHITE 2008

EVELYN-WHITE, H.G. (2008) *Hesiod, the Homeric Hymns and Homerica* (revised version of the 1914 original), London.

- F -

FABRICIUS 1999

FABRICIUS, J. (1999) *Die hellenistische Totenmahlreliefs. Grabrepräsentation und Wertvorstellung in ostgriechischen Städten*, Munich.

FARAONE 1991

FARAONE, C.A. (1991) Binding and Burying the Forces of Evil: the defensive Use of "Voodoo Dolls" in Ancient Greece, *Classical Antiquity* 10.2, 165-221.

FEIFOO MARTINEZ 1998

FEIFOO MARTINEZ, S. (1998) Generación y transformacíon del espacio urbano romano de *Augusta Emerita* al exterior de la muralla, *Mérida. Excavaciones arqueológicas* 4, 571-581.

FERNANDEZ VEGA 1994

FERNANDEZ VEGA, P. (1994) Las áreas periurbanas de las ciudades altoImperiales romanas. Usos del suelo y zonas residenciales, *Hispania Antiqua* 18, 141-158.

FINLEY 1977

FINLEY, M. I. (1977) The ancient City: from Fustel de Coulanges to Max Weber and beyond, *Comparative Studies in Society and History* 19, 305-327.

FITCH 2013

FITCH, J.G. (2013) *Palladius. The Work of Farming (*Opus Agriculturae*) and Poem on Grafting*, Blackawton.

FLAMBARD 1987

FLAMBARD, J-M. (1987) Eléments pour une approche financière de la mort dans les classes populaires du Haut-Empire. Analyse du budget de quelques collèges funéraires de Rome et d'Italie, in: **HINARD, F.** (ed.) *La mort, les morts et l'au-delà dans le monde romain.* (*Actes du colloque*, 20-22 November 1985, Caen), 209-244.

FLEISCHER 1979

FLEISCHER, R. (1979) Forschungen in Sagalassos 1972 und 1974, *Istanbuler Mitteilungen* 29, 273-307.

FLEISCHER 2008

FLEISCHER, R. (2008) Unbekannte Felsheiligtümer in Termessos, *Istanbuler Mitteilungen* 58, 197-242.

FONTIJN & FOKKENS 2007

FONTIJN, D. & FOKKENS, H. (2007) The Emergence of Early Iron Age 'Chieftains' Graves' in the southern Netherlands: reconsidering Transformations in Burial and depositional Practices, in: **HASELGROVE, C. & POPE, R.** (eds.) *The earlier Iron Age in Britain and the near Continent*, Oxford, 354-373.

FORBES 1965

FORBES, R.J. (1965) *Studies in Ancient Technology*, Vol. 2, *Irrigation and Drainage; Power; Land Transport and Roadbuilding; the Coming of the Camel*, Leiden.

FOX 1987

FOX, R.L. (1987) *Pagans and Christians*, London.

FOXHALL 1996

FOXHALL, L. (1996) Feeling the Earth move: Cultivation Techniques on steep Slopes in Classical Antiquity, in: **SALMON, J. & SHIPLEY, G.** (eds.) *Human Landscapes in Classical Antiquity: Environment and Culture* (*Leicester-Nottingham Studies in Ancient Society* 6), London, 44-67.

FRANCE 1985

FRANCE, R.T. (1985) *The Gospel According to Matthew: An Introduction and Commentary*, Leicester – Grand Rapids (MI).

FRAYN 1993

FRAYN, J.M. (1993) *Markets and Fairs in Roman Italy: their social and economic Importance from the second Century BC to the third Century AD*, Oxford.

FRERE 1985

FRERE, S.S. (1985) Civic Pride: a Factor in Roman Town Planning, in: **GREW, F. & HOBLEY, B.** (eds.) *Roman Urban Topography in Britain and the Western Empire*, London, 34-36.

FREZOULS 1990

FREZOULS, E. (1990) Évergétisme et construction publique en Italie du Nord (X^{e} et XI^{e} régions augustéennes), in*:* **ECOLE FRANÇAISE DE ROME & UNIVERSITA DI TRIESTE** (eds.) *La città nell'Italia settentrionale in età romana. Morfologie, strutture e funzionamento dei centri urbani delle regiones X e XI* (13-15 March 1987, Trieste*)* (*Collection de l'École française de Rome* 130) Rome, 179-209.

FUJITA *ET AL.* 2001

FUJITA, M., KRUGMAN, P. & VENABLES, A. (2001) *The Spatial Economy*. *Cities, Regions, and International Trade*, Cambridge.

FULFORD *ET AL.* 1997

FULFORD, M. G., RIPPON, S., FORD, S., TIMBY, J. & WILLIAMS, B. (1997) Silchester: Excavations at the North Gate, on the North Walls, and in the North Suburbs 1988 and 1991–3, *Britannia* 28*,* 87–168.

FÜLLE 1997

FÜLLE, G. (1997) The internal Organization of the Arretine *terra sigillata* Industry: Problems of Evidence and Interpretation, *Journal of Roman Studies* 87, 111-155.

FULLER *ET AL.* 2012

FULLER, B.T., DE CUPERE, B., MARINOVA, E., VAN NEER, W., WAELKENS, M. & RICHARDS, M.P. (2012) Isotopic Reconstruction of human Diet and Animal Husbandry Practices during the Classical-Hellenistic, Imperial, and Byzantine Periods at Sagalassos, Turkey, *American Journal of Physical Anthropology* 149, 157-171.

- G -

GAGARIN & FANTHAM (EDS.) 2010

GAGARIN, M. & FANTHAM, E. (eds.) *The Oxford Encyclopedia of Ancient Greece and Rome*, Oxford – New York.

GALL 1971

GALL, J. LE (1971) Métiers de femmes au Corpus Inscriptionum Latinarum, in: **DURRY, M.** (ed.) Mélanges Marcel Durry (*Revue des Études Latines* 47 bis) Paris, 123-130.

GARCIA 2010

GARCIA, B. (2010) Instalaciones industriales y comerciales en el *Suburbium Occidentale*, in: **VAQUERIZO, D. & MURILLO, J.F.** (eds.) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19 Vol. 2), Cordoba, 439-449.

GARCÍA MORCILLO 2013

GARCÍA MORCILLO, M. (2013) Trade and sacred Places: Fairs, Markets and Exchange in ancient Italic Sanctuaries, in: **JEHNE, M., LINKE, B. & RÜPKE, J.** (eds.) *Religiöse Vielfalt und soziale Integration. Die Bedeutung der Religion für die kulturelle Identität und politische Stabilität im republikanischen Italien*, Heidelberg, 236-274.

GARDELA 2013

GARDELA, L. (2013) The dangerous Dead? Rethinking Viking-Age deviant Burials, in: **SŁUPECKI, L. & SIMEK, R.** (eds.) *Conversions: looking for ideological Change in the Early Middle Ages* (*Studia Medievalia Septentrionalia* 23) Vienna, 99-136.

GARLAND 1985

GARLAND, R. (1985) *The Greek Way of Death*, New York.

GARNSEY 1980

GARNSEY, P. (1980) *Non-Slave Labour in the Greco-Roman World* (*Cambridge Philological Society* Supplement 6) Cambridge.

GARNSEY & SALLER 1987

GARNSEY, P. & SALLER, R. (1987) *Roman Empire: Economy, Society and Culture*, California.

GARRIGUET 2010

GARRIGUET, J. A. (2010) El concepto de *Suburbium* en la ciudad romana, in: **VAQUERIZO, D. & MURILLO, J.F.** (eds.) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19 Vol. 2), Cordoba, 365-379.

GASCOU 2004

GASCOU, J. (2004) Nécropolis byzantine IV^{e}-VII^{e} siècles, *Études alexandrines* 7, 653-658.

GAT 2005

GAT, A. (2005) Why City-States existed? Riddles and Clues of Urbanisation and Fortifications, in: **HANSEN, M.H.** (ed.) *A comparative Study of six City-State Cultures* (*Historisk-filosofiske Skrifter* 27) Copenhagen, 125-139.

GATES 2011

GATES, C. (2011) *Ancient Cities: the Archaeology of urban Life in the ancient Near East and Egypt, Greece and Rome*, London.

GAZENBEEK 1998

GAZENBEEK, M. (1998) Prospections systématiques autour de Glanum (Bouches-du-Rhône): l'extension de l'agglomération, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 83-104.

GIESECKE 2007

GIESECKE, A.L. (2007) *The epic City: Urbanism, Utopia and the Garden in Ancient Greece and Rome*, Cambridge.

GIOIA *ET AL.* 2010

GIOIA, P., ARNOLDUS-HUYZENDVELD, A., CELANT, A., ROSA, C. & VOLPE, R. (2010) Archaeological Investigations in the Torre Spaccata Valley (Rome): human Interaction with the recent Activity of the Albano Maar, in: **FUNICIELLO, R. & GIORDANO, G.** (eds.) *The Colli Albani Volcano* (*Special Publications of IAVCEI* 3) London, 355-382.

GOODMAN 2007

GOODMAN, P.J. (2007) *The Roman City and its Periphery: from Rome to Gaul*, London.

GOODMAN 2013

GOODMAN, P.J. (2013) The Production Centres: Settlement Hierarchies and spatial Distribution, in: **FULFORD, M. & DURHAM, E.** (eds.) *Seeing Red: new economic and social Perspectives on Terra sigillata*, London, 121-136.

GOODMAN 2016A

GOODMAN, P.J. (forthcoming a) Urban peripheries, in: **COOLEY, A.** (ed.) *A Companion to Roman Italy*, Oxford, s.l.

GOODMAN 2016B

GOODMAN, P.J. (forthcoming b) Working together: Clusters of Artisans in the Roman City, in: **WILSON, A. & FLOHR, M.** (eds.) *Beyond Marginality: Craftsmen, Traders and the socioeconomic History of Roman urban Communities*, Oxford, s.l.

GORDON CHILDE 2009[4]

GORDON CHILDE, V. (2009[4]) The urban Revolution, in: **LEGATES, R.T. & STOUT, F.** (eds.) *The City Reader*, London - New York, 27-34.

GOUREVITCH & RAEPSAET-CHARLIER 2004

GOUREVITCH, D. & RAEPSAET-CHARLIER, M.-T. (2004) *La femme dans la Rome antique*, Paris.

GOWLAND & KNÜSEL 2009

GOWLAND, R. & KNÜSEL, C. (2009) *Social Archaeology of Funerary Remains*, Oxford.

GRAF 1997

GRAF, F. (1997) *Magic in the Ancient World*, Cambridge-London.

GRAHAM 2005

GRAHAM, E. (2005) The Quick and the Dead in the extra-urban Landscape: the Roman Cemetery at Ostia, in: **BRUHN, J., CROXFORD, B. & GRIGOROPOULOS, D.** (eds.) *TRAC 2004* (*Proceedings of the fourteenth annual Theoretical Roman Archaeology Conference*, April 2004, Durham) Oxford, 133-143.

GRAY 2006

GRAY, C.L. (2006) The bearded Rustic of Roman Attica (Chapter 15), in: **ROSEN, R.M. & SLUITER, I.** (eds.) *City, Countryside, and the spatial Organization of Value in Classical Antiquity*, Leiden-Boston, 349-368.

GRAVES 1891

GRAVES, F.P. (1891) *The Burial Customs of the ancient Greeks* (unpublished master thesis, University of Columbia).

GREEN 1990

GREEN, P. (1990) *Alexander to Actium. The historical Evolution of the Hellenistic Age*, Berkeley.

GRIGNON 2001

GRIGNON, C. (2001) Commensality and Social Morphology: An Essay of Typology, in: **SCHOLLIERS, P.** (ed.) *Food, Drink and Identity: Cooking, Eating and Drinking in Europe since the Middle Ages*, Oxford – New York, 23-36.

GRILLI 2000

GRILLI, A. (2000) Il suburbio nella tradizione letteraria greca e latina, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 39-56.

GROS 1998

GROS, P. (1998) Villes et "non-villes". Les ambiguïtés de la hiérarchie juridique et de l'aménagement urbain, in: **GROS, P.** (ed.) *Villes et campagnes en Gaule romaine*, Paris, 211-225.

GROS 2011

GROS, P. (2011) *l'Architecture romaine du début du III^e siècle av. J.-C. à la fin du Haut-Empire. 1. Les monuments publics* (2nd ed.), Paris.

VARALDO GROTTIN

VARALDO GROTTIN, F. (2000) Il suburbium di Genova dall'antichità al medioevo: il contributo dell'archeologia, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 201-220.

GUEST 2012

GUEST, P. (2012) The Production, Supply and Use of Late Roman and early Byzantine Copper Coinage in the Eastern Empire, *The Numismatic Chronicle* 172, 105-131.

GUNGADIN 2007

GUNGADIN, S. (2007) Sex Determination from Fingerprint Ridge Density, *Internet Journal of Medical Update* 2(2), 4-7.

GUYARD 1998

GUYARD, L. (1998) Paris. Le faubourg nord de Lutèce, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 163-180.

- H -

HAKIM 2001

HAKIM, B.E. (2001) Julian of Ascalon's Treatise on Construction and Design Rules from sixth-Century Palestine, *Journal of the Society of Architectural Historians* 60, 4-25.

HALDON 1990

HALDON, J.F. (1990) *Byzantium in the Seventh Century: the Transformation of a Culture*, Cambridge.

HAMILTON & WHITEHOUSE 2006

HAMILTON, S. & WHITEHOUSE, R. (2006) Phenomenology in Practice: towards a Methodology for a 'subjective' Approach, *European Journal of Archaeology* 9, 31-71.

HAMMER 2014

HAMMER, E. (2014) Local Landscape Organization of mobile Pastoralists in southeastern Turkey, *Journal of Anthropological Archaeology* 35, 269-288.

HANEGRAAFF 2012

HANEGRAAFF, W. (2012) *Esotericism and the Academy. Rejected Knowledge in Western Culture*, Cambridge.

HANSEN 2000

HANSEN, M.H. (2000) The Hellenic *Polis*, in: **HANSEN, M.H.** (ed.) *A comparative Study of thirty City-State Cultures*, Copenhagen, 141-187.

HANSEN 2006

HANSEN, M. H. (2006) *The Shotgun Method. The Demography of the ancient Greek City-State Culture*, Columbia.

HANSEN (ED.) 2000

HANSEN, M.H. (ed.) (2000) *A comparative Study of thirty City-State Cultures*, Copenhagen.

HANSEN (ED.) 2005

HANSEN, M.H. (ed.) (2005) *A comparative Study of six City-State Cultures* (*Historisk-filosofiske Skrifter* 27) Copenhagen.

HANSON 2012

HANSON, J.W. (2012) The urban System of Roman Asia Minor and wider urban Connectivity, in: **BOWMAN, A.K. & WILSON, A.** (eds.) *Settlement, Urbanization and Population*, Oxford, 229-275.

HARL 2001

HARL, K.W. (2001) From pagan to Christian in Cities of Roman Anatolia during the fourth and fifth Centuries, in: **BURNS, T.S. & EADIE J.W.** (eds.) *Urban Centers and rural Contexts in Late Antiquity*, Michigan, 301-322.

HARTAL (ED.) 2009

HARTAL, M. (ed.) (2009) *Paneas 4. The Aqueduct and the northern Suburbs* (*Israel Antiquities Authority Reports* 40) Jerusalem.

HAWKINS 2009

HAWKINS, C. (2009) Risky Businesses: Roman Artisans, Risk, and Risk Management, *140th Annual Meeting of The American Philological Association* (8-11 January, Philadelphia) (unpublished paper).

HAY *ET AL*. 2010

HAY, S., JOHNSON, P., KEAY, S. & MILLET, M. (2010) *Falerii Novi*: further Survey of the northern extramural Area, *Papers of the British School at Rome* 78, 1-38.

HEBERDEY & WILBERG 1900

HEBERDY, R. & WILBERG, W. (1900) *Grabbauten von Termessos in Pisidien* (*Jahreshefte des Österreichischen Archäologischen Institutes in Wien* 3) Brünn, 177-210.

HEIJMANS 1996

HEIJMANS, M. (1996) L'abandon des quartiers périphériques d'Arles, in: **FICHES, J.-L.** (ed.) *Le IIIe siècle en Gaule Narbonnaise. Données régionales sur la crise de l'Empire* (*Actes de la table ronde du GDR954,* 15-16 septembre 1995, Aix-en-Provence) Sophia Antipolis, 121-133.

HEINZELMANN 2000

HEINZELMANN, M. (2000) *Die Nekropolen von Ostia: Untersuchungen zu den Gräberstrassen vor der Porta Romana und an der Via Laurentina*, Munich.

HEINZELMANN 2001

HEINZELMANN, M. (2001) Les nécropoles d'Ostie: topographie, développement, architecture, structure sociale, in: **DESCOEUDRES, J.P.** (ed.) *Ostia: port et portique de la Rome antique*, Geneva, 373-384.

HELAL OURIACHEN 2009

HELAL OURIACHEN, E.H. (2009) La ciudad betica tardoantigua. Persistencias y mutaciones en relación con la realidad urbana de las regiones del mediterráneo y del atlántico, *@rqueología y Territorio* 6, 199-209.

HELAL OURIACHEN 2011

HELAL OURIACHEN, E.H. (2011) *La ciudad en la Bética tardoantigua. Persistencias y transformaciones locales en relación con el urbanismo mediterráneo y atlántico*, Berlin.

HELAL OURIACHEN 2012

HELAL OURIACHEN, E.H. (2012) *Suburbium*: un concepto clave en la ciudad tardoantigua, *Revista de Claseshistoria* article 295.
http://www.claseshistoria.com/revista/2012/articulos/helal-suburbium.pdf

HELEN 1975

HELEN, T. (1975) *Organisation of Roman Brick Production in the first and second centuries A.D.: an Interpratation of Roman Brick Stamps*, Helsinki.

HELLMANN 2006

HELLMANN, M.-C. (2006) *L'architecture grecque* 2. *Architecture religieuse et funéraire*, Paris.

HELLMANN 2014

HELLMANN, M.-C. (2014) L'artisanat grec en périurbain: pourquoi, comment et quand?, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) *Proasteion. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 157-171.

HENRY 2011

HENRY, O. (2011) Hellenistic monumental tombs: the Π-shaped tomb from Labraunda and Karian parallels, in: **KARLSSON, L. & CARLSSON, S.** (eds.) *Labraunda and Karia (Proceedings of the International Symposium Commemorating Sixty Years of Swedish Archaeological Work in Labraunda*, 20-21 November 2008, Stockholm (*BOREAS. Uppsala Studies in Ancient Mediterranean and Near Eastern Civilizations* 32) Stockholm, 159-176.

HENRY (ED.) 2011

HENRY, O. (ed.) (2011) *Le mort dans la ville. Pratiques, contextes et impacts des inhumations* intra-muros *en Anatolie, du début de l'Âge du Bronze à l'époque romaine* (*Actes des 2e Rencontres d'Archéologie de l'IFÉA*, 14-15 November 2011, Istanbul) Istanbul.

HIDDINK 2003

HIDDINK, H.A. (2003) *Grafritueel in de Late IJzertijd en Romeinse tijd in het Maas-Demer-Schelde gebied* (Zuidnederlandse Archeologische Rapporten 11), Amsterdam.

HILL 1996

HILL, S. (1996) *The Early Byzantine Churches of Cilicia and Isauria* (*Birmingham Byzantine and Ottoman Studies* 1) Ashgate.

HINDS 2009

HINDS, K. (2009) *Everyday Life in the Roman Empire*, New York.

HIRSCHFELD 1998

HIRSCHFELD, Y. (1998) Early Roman Manor Houses in Judea and the Site of Khirbet Qumran, *Journal of Near Eastern Studies* 57 (3), 161-189.

HOLLERAN 2012

HOLLERAN, C. (2012) *Shopping in Ancient Rome. The Retail Trade in the Late Republic and the Principate*, Oxford.

HOMO 1971

HOMO, L. (1971) Rome impériale et l'urbanisme dans l'antiquité, Paris.

HOPE 2000

HOPE, V.M. (2000) Contempt and Respect: the Treatment of the Corpse in ancient Rome, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the ancient City*, London, 104-127.

HOPE 2007

HOPE, V.M. (2007) Death in Ancient Rome: A Sourcebook, London – New York.

HOPE 2009

HOPE, V.M. (2009) *Roman Death. The Dying and the Dead in ancient Rome*, London/New York.

HOPE & HUSKINSON (EDS.) 2011

HOPE, V.M. & HUSKINSON, J. (eds.) (2011) *Memory and Mourning: Studies on Roman Death*, Oxford.

HOPE & MARSHALL (EDS.) 2000

HOPE, V.M. & MARSHALL, E. (eds.) (2000) *Death and Disease in the ancient City*, London.

HOPKINS 1978

HOPKINS, K. (1978) Economic Growth and Towns in classical Antiquity, in: **ABRAMS, P. & WRIGELY, E.A.** (eds.) *Towns in Societies*, Cambridge, 35-77.

HOPKINS 1983

HOPKINS, K. (1983) *Death and Renewal* (*Sociological Studies in Roman History* 2), Cambridge.

HÖRMANN 1951

HÖRMANN, H. (1951) *Die Johanneskirche* (*Forschungen in Ephesos* 4.3), Vienna.

HOSDEZ *ET AL.* 1992

HOSDEZ, C., JACQUES, A. & TUFFREAU-LIBRE, M. (1992) La *villa* suburbaine de Mont Saint-Vaast à Arras, *Bulletin de la Commission Départementale d'Histoire et d'Archéologie de Pas de Calais* 13.2, 305-348.

HOWE 2014

HOWE, T. (2014) Value Economics. Animals, Wealth and the Market (Chapter 8), in: **CAMPBELL, G.L.** (ed.) *The Oxford Handbook of Animals in classical Thought and Life*, Oxford, 136-155.

HUSSON 1967

HUSSON, G. (1967) Recherches sur les sens du mot *ΠΡΟΑΣΤΙΟΝ* dans le grèc d'Égypte, *Recherches de papyrologie* 4, 187-200.

HÜLDEN 2011

HÜLDEN, O. (2011) Dead People among the Living? Zum Verhältnis von Siedlung und Nekropolen im vorhellenistischen Lykien, in: **HENRY, O.** (ed.) *Le mort dans la ville. Pratiques, contextes et impacts des inhumations* intra-muros *en Anatolie, du début de l'Âge du Bronze à l'époque romaine* (*Actes des 2e Rencontres d'Archéologie de l'IFÉA*, 14-15 November 2011, Istanbul) Istanbul, 183-206.

- J -

JACOBS 2008

JACOBS, I. (2007) Urban Aesthetics in Late Antique Sagalassos. I. The public Area, in: **ERZEN, J.N. & YONCACI, P.** (eds.) *Türkiye'de estetik / Aesthetics in Turkey* (*Proceedings of the Turkish Congress of Aesthetics*, 22-24 November 2006, Ankara) Ankara, 457-471.

JACOBS 2012

JACOBS, I. (2012) The Creation of the Late Antique City. Constantinople and Asia Minor during the 'Theodosian Renaissance, *Byzantion* 82, 113-164.

JACOBS 2013

JACOBS, I. (2013) *Aesthetic Maintenance of civic Space: the "Classical" City from the 4th to the 7th c. AD* (*Orientalia Lovaniensia Analecta* 193) Leuven.

JACOBS & WAELKENS 2013

JACOBS, I. & WAELKENS, M. (2013) Five centuries of glory. The Colonnaded Street of Sagalassos in the first and sixth Century AD, *Instanbuler Mitteilungen* 63, 219-266.

JANSSEN *ET AL.* IN PREP.

JANSSEN, E., MUYS, B., CLAEYS, J., DEGRYSE, P. & POBLOME, J. (in prep.) XylArch, a Tool to model Wood Consumption by past Communities: Application to the ancient Town of Sagalassos.

JEHASSE 1998

JEHASSE, O. (1998) Les *suburbia* d'*Aleria* et la romanisation de la Corse au IIe siècle de l'Empire, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 247-258.

JENSEN 2012

JENSEN, R.M. (2012) Dining with the Dead: from the *Mensa* to the Altar in Christian Late Antiquity (Chapter 4), in: **BRINK, L. & GREEN, D.** (eds.) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York, 107-144.

JOHNSON *ET AL.* 1961

JOHNSON, A.C., COLEMAN-NORTON, P.R., BOURNE, F.C. & PHARR, C. (ed.) (1961) *Ancient Roman Statutes*, Austin.

JOHNSON 2008

JOHNSON, P. (2008) The modern Cemetery: a Design for Life, *Social & Cultural Geography* 9 No. 7, 777-790.

JOHNSON 2012

JOHNSON, M.H. (2012) Phenomenological Approaches in Landscape Archaeology, *Annual Review of Anthropology* 41, 269-284.

JONES 1940

JONES, A.H.M. (1940) *The Greek City. From Alexander to Justinian*, Oxford.

JONES (ED.) 1981

JONES, M.J. (ed.) (1981) Excavations at Lincoln. Third interim Report. Sites outside the walled City, *Antiquaries Journal* 61.1, 83-114.

JUUTI *ET AL.* 2007

JUUTI, P.S., KATKO, T.S. & VUORINEN, H.S. (2007) Conclusions, in: **JUUTI, P.S., KATKO, T.S. & VUORINEN, H.S.** (eds.) *Environmental History of Water*. *Global views on Community Water Supply and Sanitation*, London, 93-96.

- K –

KAISER 2011

KAISER, A. (2011) *Roman urban Street Networks* (*Routledge Studies in Archaeology*, 2) New York.

KALLINTZI 2004

KALLINTZI, K. (2004) Abdera. Organization and Utilization of the Area *Extra Muros*, in: **MOUSTAKA, A., SKARLATIDOU, E., TZANNES, M.C. & ERSOY, Y.** (eds.) *Klazomenai, Teos and Abdera: Metropoleis and Colony* (*Proceedings of the International Symposium held at the Archaeological Museum of Abdera*, 20-21 October 2001) Abdera, 271-289.

KANIEWSKI *ET AL.* 2007

KANIEWSKI, D., PAULISSEN, E., DE LAET, V., DOSSCHE K. & WAELKENS, M. (2007) A high-Resolution Late Holocene Landscape ecological History inferred from an intramontane Basin in the Western Taurus Mountains, Turkey, *Quaternary Science Reviews* 26, 2201-2218.

KANIEWSKI *ET AL.* 2008

KANIEWSKI, D., PAULISSEN, E., DE LAET, V. & WAELKENS, M. (2008) Late Holocene Fire Impact and post-Fire Regeneration from the Bereket Basin, Taurus Mountains, southwest Turkey, *Quaternary Research* 70 (2), 228-239.

KAPTIJN *ET AL.* 2012

KAPTIJN, E., VANDAM, R., POBLOME, J. & WAELKENS, M. (2012) Inhabiting the Plain of Burdur: 2010 and 2011 Sagalassos Project Survey, *Anmed* 10, 142-147.

KAPTIJN *ET AL.* 2013

KAPTIJN, E., POBLOME, J., VANHAVERBEKE, H., BAKKER, J. & WAELKENS, M. (2013) Societal changes in the Bereket valley in the Hellenistic, Roman and Early Byzantine periods. Results from the Sagalassos Territorial Archaeological Survey 2008 (SW Turkey), *Anatolian Studies* 63, 75-95.

KAPTIJN & BAKKER 2014

KAPTIJN, E. & BAKKER, J. (2014) *Human-Environment Interaction in a small intramontane Valley. Research from the Sagalassos Archaeological Research Project at Bereket (SW Turkey)* (unpublished poster presentation).

KATAJALA-PELTOMAA & VUOLANTO 2013

KATAJALA-PELTOMAA, S. & VUOLANTO, V. (2013) Religious Practices and social Interaction, in: **KATAJALA-PELTOMAA, S. & VUOLANTO, V.** (eds.) *Religious Participation in ancient and medieval Societies. Rituals, Interaction and Identity* (*Acta Instituti Romani Finlandiae* 41) Rome, 11-24.

KAZHDAN 1997

KAZHDAN, A.P. (1997) The Peasantry, in: **CAVALLO, G.** (ed.) *The Byzantines*, Chicago & London, 43-73.

KAZHDAN & TALBOT (EDS.) 1991

KAZHDAN, A.P. & TALBOT, A.-M. (eds.) (1991) *The Oxford Dictionary of Byzantium*, Oxford.

KEAY 1991

KEAY, S. (1991) The *ager tarraconensis* in the late Empire: a Model for the economic Relationship of Town and Country in eastern Spain?, in: **BARKER, G. & LLOYD, J.** (eds.) *Roman Landscapes. Archaeological Survey in the Mediterranean Region* (*Archaeological Monographs of the British School at Rome* 2) London, 79-87.

KEAY *ET AL.* 2000

KEAY, S., MILLETT, M., POPPY, S., ROBINSON, J., TAYLOR, J. & TERRENATO, N. (2000) Falerii Novi: a new Survey of the walled Area, *Papers of the British School at Rome* 68, 1–93.

KELLEHEAR 2007

KELLEHEAR, A. (2007) *A social History of Dying*, Cambridge.

KELLENS *ET AL.* 2003

KELLENS, N., DEGRYSE, P., MARTENS, F. & WAELKENS, M. (2003) Iron Production Activities and Products at Roman to Early-Byzantine Sagalassos (SW Turkey), in: *Archaeometallurgy in Europe*, Vol. 1 (*Proceedings of the International Conference*, 24-26 September 2003, Milan) Milan, 545-554.

KEMP 1981

KEMP, B.J. (1981) The Character of the South Suburb of Tell el-ʿAmarna, *Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin* 113, 81-97.

KENDALL 2005

KENDALL, A. (2005) Applied Archaeology: revitalizing indigenous agricultural Technology within an Andean Community, in: **SILLAR, B. & FFORDE, C.** (eds.) *Conservation, Identity and Ownership in indigenous Archaeology* (*Public Archaeology* 4), 205-221.

KERN 1998

KERN, E. (1998) Le *uicus* des *canabae*: la problématique du faubourg de Strasbourg-Koenigshoffen: agglomération satellite ou *suburbium*?, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 201-216.

KITTO 2009

KITTO, H.D.F. (2009[4]) The *Polis*, in: **LEGATES, R.T. & STOUT, F.** (eds.) *The City Reader*, London - New York, 35-40.

KLEIBL 2007

KLEIBL, K. (2007) Water-crypts in Sanctuaries of Graeco-Egyptian Deities of the Graeco-Roman Period in the Mediterranean Region (*Proceedings of the fourth Central European Conference for Young Egyptologists*, 31 Augustus – 2 September 2006, Budapest) (*Studia Aegyptiaca* 18), 207-224.

KNAPP 2011

KNAPP, R. (2011) *Invisible Romans*, London.

KÖSE 2002

KÖSE, V. (2002a) Die Grabdenkmäler von Sagalassos. Kontinuität und Diskontinuität zwischen Hellenismus und früher Kaiserzeit, in: **BERNS, C., VON HESBERG H., VANDEPUT, L. & WAELKENS, M.** (eds.) *Patris und Imperium. Kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasiens in der frühen Kaiserzeit* (International Colloquium, November 1998, Köln (*Bulletin Antieke Beschaving Babesch* Supplement 8) Leuven, 117-133.

KÖSE 2005A

KÖSE, V. (2005) *Nekropolen und Grabdenkmäler von Sagalassos in Pisidien in hellenistischer und römischer Zeit* (*Studies in Eastern Mediterranean Archaeology* 7) Leuven.

KÖSE 2005B

KÖSE, V. (2005b) The Origin and Development of Market Buildings in Hellenistic and Roman Asia Minor, in: **MITCHELL, S. & KATSARI, C.** (eds.) *Patterns in the Economy of Roman Asia Minor*, Swansea, 139-166.

KRÁLÍK & NEJMAN 2007

KRÁLÍK, M. & NEJMAN, L. (2007) Fingerprints on Artifacts and historical Items: Examples and Comments, *Journal of Ancient Fingerprints* 1, 4-15.

KRAUTHEIMER 1979

KRAUTHEIMER, R. (1979[3]) *Early Christian and Byzantine Architecture*, New York.

KRSMANOVIC & ANDERSON 2012

KRSMANOVIC, D. & ANDERSON, W. (2012) Paths of the Dead. Interpreting funerary Practice at Roman-Period Pessinus, Central Anatolia, *Melbourne Historical Journal* 40 (2), 58-87.

KRUGMAN 2004

KRUGMAN, P. (2004) *The 'new' economic Geography: where are we?* (non-published presentation, 26 November 2004).

KRUGMAN 2010

KRUGMAN, P. (2010) *The 'new' economic Geography, now middle-aged* (non-published presentation to the Association of American Geographers, 16 April 2010).

KUBINSKA 1968

KUBINSKA, J. (1968) *Les monuments funéraires dans les inscriptions grecques de l'Asie Mineure*, Warshaw.

KURTZ & BOARDMAN 1971

KURTZ, D.C. & BOARDMAN, J. (1971) *Greek Burial Customs*, London.

- L -

LABARRE 2009

LABARRE, G. (2009) Les inscriptions de Yazılı Kanyon, *Anatolia Antiqua* 17, 175-186.

LAFON 2001

LAFON, X. (2001) Le *suburbium*, *Pallas* 55, 199-214.

LAFOREST *ET AL.* 2013

LAFOREST, C., CASTEX, D., D'ANDRIA, F. & AHRENS, S. (2013) Accès et circulation dans les nécropoles antiques de Hiérapolis (Phrygie, Turquie): l'exemple de la tombe 163D (nécropole nord) et de la tombe C92 (nécropole est), *Cahiers des thèmes transversaux Archéologie et Sciences de l'Antiquité* 11, 143-150.

LANCKORONSKI 1892

LANCKORONSKI, K. (1892) *Städte Pamphyliens und Pisidiens* (2 volumes), Vienna.

LA REGINA *ET AL.* (EDS.) 2001-2008

LA REGINA, A. *ET AL.* (eds.) (2001-2008) *Lexicon Topographicum Urbis Romae: Suburbium*, Volumes A-Z, Roma.

LAUMONIER 1936

LAUMONIER, A. (1936) Archéologie carienne, *Bulletin de correspondance hellénique* 60, 286-335.

LAURENCE & NEWSOME (EDS.) 2011

LAURENCE, R. & NEWSOME, D. (eds.) (2011) *Rome, Ostia, Pompeii: Movement and Space*, Oxford.

LAUWERS *ET AL.* 2005

LAUWERS, V., DEGRYSE, P., POBLOME, J., AND WAELKENS, M. (2005) Le verre de Sagalassos: de nouvelles preuves d'une production locale de verre, *Bulletin de l'association française pour l'archéologie du verre*, 26-29.

LAUWERS *ET AL.* 2007

LAUWERS, V., DEGRYSE, P. & WAELKENS, M. (2007) Evidence for Anatolian Glassworking in Antiquity: The Case of Sagalassos (Southwestern Turkey), *Journal of Glass Studies* 49, 39-46.

LAVAN 2003

LAVAN, L. (2003) The political Topography of the Late Antique City: Activity Spaces in Practice, in: **LAVAN, L. & BOWDEN, W.** (eds.) *Theory and Practice in Late-Antique Archaeology* (*Late Antique Archaeology* 1), Leiden-Boston, 314-337.

LE GALL 1971

LE GALL, J. (1971) Métiers de femmes au Corpus Inscriptionum Latinarum, in: **DURRY, M.** (ed.) Mélanges Marcel Durry (*Revue des Études Latines* 47 bis) Paris, 123-130.

LE GALL 1978

LE GALL, J. (1978) Que faisait-on sur un *forum*?, in: **MARTIN, R.** (ed.) *Forum et Plaza Mayor dans le monde hispanique* (*Publications de la Casa de Velazquez. Serie 'Recherches en sciences sociales'* 4), Paris, 23-26.

LEGATES & STOUT (EDS.) 2009[4]

LEGATES, R.T. & STOUT, F. (eds.) (2009[4]) *The City Reader*, London - New York.

LEMAITRE 1998

LEMAITRE, C. (1998) Le Vieux-Lisieux: ville ou sanctuaire suburbain? Premières réflexions, in: **BEDON, R.** (ed.) Suburbi*a: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 125-145.

LENTACKER *ET AL.* 2004

LENTACKER, A., ERVYNCK, A. & VAN NEER, W. (2004) The symbolic Meaning of the Cock. The Animal Remains from the *Mithraeum* at Tienen (Belgium), in: **MARTENS, M. & DE BOE, G.** (eds.) *Roman Mithraism: the Evidence of the Small Finds* (*Acta of the international Conference*, 7-8 November 2001, Tienen) (*Archeologie in Vlaanderen* 4) Brussel, 57-80.

LEÓN MUÑOZ & JURADO 2010

LEÓN MUÑOZ, A. & JURADO, S. (2010) La cristianización de la topografía funeraria en el *suburbium* occidental de Córdoba, in: **VAQUERIZO, D. & MURILLO, J.F.** (eds.) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19 Vol. 2), Cordoba, 547-562.

LEPETZ 2008

LEPETZ, S. (2008) Boucherie, sacrifice et marché à la viande en Gaule romaine Septentrionale, in: **VAN ANDRINGA, W.** (ed.) *Sacrifices, marché de la viande et pratiques alimentaires dans les cités du monde romain. Meat: Sacrifice, Commerce and Food Preparations in the Roman Empire* (*Food & History* 5.1) Turnhout, 73-106.

LEUCCI & DE GIORGI 2014

LEUCCI, G. & DE GIORGI, L. (2014) *The 2014 Sagalassos geophysical Campaign* (internal report).

LEVEAU 2005

LEVEAU, P. (2005) Aix-les-Bains, vicus thermal et bourg rural, *Revue archéologique de Narbonnaise* 38-39, 85-103.

LEVEAU 2007

LEVEAU, P. (2007) Le règlement du *campus pecuarius* d'Aix-les-Bains, in: **DALAISON, J.** (ed.) *Espaces et pouvoirs dans l'Antiquité de l'Anatolie à la Gaule: hommages à Bernard Rémy*, Grenoble, 523-578.

LEVI 1985

LEVI, D. (1985) Venticinque anni di scavi a Iasos, in: **SISINNI, F.** (ed.) *Studi su Iasos di Caria. Venticinque anni di scavi della Missione Archeologica Italiana* (*Bolletino d'Arte* Supplement 31-32) 1-18.

LIBRECHT *ET AL.* 2000

LIBRECHT, I., PAULISSEN, E., VERSTRAETEN, G. & WAELKENS, M. (2000) Implications of environmental Changes on Slope Evolution near Sagalassos, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the survey and excavation campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven, 799-817.

LIGHTFOOT 1993

LIGHTFOOT, C.S. (1993) A Catalogue of the Glass Finds: Sagalassos 1990, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986–1989) and Excavations (1990–1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 173-195.

LILJA 1976

LILJA, S. (1976) Vermin in ancient Greece, *Arctos*. *Acta Philologica Fennica* 10, 59-68.

LINDSAY 2000

LINDSAY, H. (2000) Death-Pollution and Funerals in the City of Rome, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the ancient City*, London, 152-173.

LIU 2005

LIU, J. (2005) Local Governments and *Collegia*: A new Appraisal of the Evidence, in **AUBERT, J.-J. & VÁRHELYI, Z.** (eds.) *A Tall Order: Imperialism, Law, Religion, and Society in the ancient World. Essays in Honor of William V. Harris* (*Beiträge zur Altertumskunde* 216) Munich, 279-310.

LIU 2009

LIU, J. (2009) Collegia Centonariorum*. The Guilds of Textile Dealers in the Roman West*, Brill Leiden.

LIVERANI 2010

LIVERANI, P. (2010) L'anfiteatro extraurbano e le mura nelle città dell'Italia centrosettentrionale, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 53-66.

LIVERANI 2011

LIVERANI, P. (2011) Urbano/extraurbano: el concepto de *suburbium* en el mundo antiguo, in: *Córdoba reflejo de Roma* (*Catalogo della mostra 'Córdoba 2011'*) Córdoba, 199-203.

LO CASCIO (ED.) 2000

LO CASCIO, E. (ed.) (2000) *Mercati permanenti e mercati periodici nel mondo romano* (*Atti degli Incontri capresi di storia dell'economia antica*, 13-15 October 1997, Capri) (*Pragmateiai* 2) Bari.

LOMAS 1997

LOMAS, K. (1997) The Idea of a City: Élite Ideology and the Evolution of urban Form in Italy, 200 BC – AD 100, in: **PARKINS, H.M.** (ed.) *Roman Urbanism. Beyond the Consumer City*, London – New York, 21-41.

LOOTS *ET AL.* 1999

LOOTS, L., NACKAERTS, K. & WAELKENS, M. (1999) Fuzzy Viewshed Analysis of the Hellenistic City Defence System at Sagalassos, Turkey, in: **DINGWALL, L., EXON, S., GAFFNEY, V., LAFLIN, S. & VAN LEUSEN, M.** (eds.) *Archaeology in the Age of the Internet - CAA97* (*Computer Applications and quantitative Methods in Archaeology. 25th Anniversary Conference*, 10-17 April 1997, Birmingham) (*British Archaeological Reports* 75) Oxford.
http://proceedings.caaconference.org/files/1997/CD-ROM/loots/LOOTS.HTM

LOOTS *ET AL.* 2000

LOOTS, L., WAELKENS, M. & DEPUYDT, F. (2000) The city fortifications of Sagalassos from the Hellenistic to the Late Roman period, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the survey and excavation campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven, 595-634.

LOOTS 2001

LOOTS, L. (2001) *The Building Materials and Building Techniques at Sagalassos, Turke*y (unpublished PhD dissertation, University of Leuven).

LYNCH 1997

LYNCH, J. (1997) Gymnasium, in: **ZEYL, D.J., DEVEREUX, D.T., MITSIS, P.T.** (eds.) *Encyclopedia of Classical Philosophy*, New York.

- M -

MACGREGOR 1976

MACGREGOR, A. (1976) *Finds from a Roman Sewer System and an adjacent Building in Church Street* (*The Archaeology of York* 17) York.

MACKIE 1990

MACKIE, N. (1990) Urban Munificence and the Growth of urban Consciousness in Roman Spain, in: **BLAGG, T. & MILLETT, M.** (eds.) *The Early Roman Empire in the West*, Oxford, 179-192.

MACMAHON & PRICE (EDS.) 2005

MACMAHON, A. & PRICE J. (eds.) (2005) *Roman working Lives and urban Living*, Oxford.

MACMULLEN 1974

MACMULLEN, R. (1974) *Roman social Relations 50 B.C. to A.D. 284*, New Haven.

MADDRELL & SIDAWAY (EDS.) 2010

MADDRELL, A. & SIDAWAY, J. D. (eds.) (2010) *Deathscapes: Spaces for Death, Dying, Mourning and Remembrance,* Farnham.

MÄGELE *ET AL.* 2007

MÄGELE , S., RICHARD, J. & WAELKENS, M. (2007) A Late-Hadrianic Nymphaeum at Sagalassos (Pisidia, Turkey): a preliminary Report, *Istanbuler Mitteilungen* 57, 469-504.

MAGIE 1953

MAGIE, D. (1953) Egyptian Dieties in Asia Minor in Inscriptions and on Coins, *American Journal of Archaeology* 57, 163-187.

MALMBERG & BJUR 2011

MALMBERG, S. & BJUR, H. (2011) Movement and urban Development at two City Gates in Rome: the Porta Esquilina and Porta Tiburtina, in: **LAURENCE, R. & NEWSOME, D.** (eds.) *Rome, Ostia, Pompeii: Movement and Space*, Oxford, 361-385.

MANGO 1986

Mango, C. (1986) The Development of Constantinople as an urban Centre, in: **CARATZAS, A.D.** (ed.) *Major Papers of the Seventeenth International Byzantine Congress* (3-8 August 1986, Washington D.C.), New Rochelle, 117-136.

MARKSTEINER 2002

MARKSTEINER, T. (2002) Städtische Strukturen im vorhellenistischen Lykien, in: **HANSEN, M.H.** (ed.) *A comparative Study of six City-State Cultures*, Copenhagen, 57-72.

MÁRQUEZ 2010

MÁRQUEZ, J. (2010) Los suburbios de *Augusta Emerita* en perspectiva diacrónica, in: Vaquerizo, D. (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 135-152.

MARSHALL 2000

MARSHALL, E. (2000) Death and Disease in Cyrene. A Case Study, in: **HOPE & MARSHALL (EDS.) 2000**

HOPE, V.M. & MARSHALL, E. (eds.) (2000) *Death and Disease in the ancient City*, London, 8-23.

MARTENS 2001

MARTENS, F. (2001) Urban Water Management at Sagalassos. Studying urban Development from an hydrological Perspective, in: Demoen, K. (ed.) *The Greek City from Antiquity to the Present. Historical Reality, ideological Construction, literary Representation*, Leuven, 49-86.

MARTENS 2004A

MARTENS, F. (2004a) *Interdisciplinary Research concerning the urban Development of Sagalassos. Settlement Development, urban Layout and Infrastructure* (PhD Dissertation, University of Leuven), Leuven.

MARTENS 2004B

MARTENS, M. (2004b) The *Mithraeum* in Tienen (Belgium): small Finds and what They can tell Us, in: **MARTENS, M. & DE BOE, G.** (eds.) *Roman Mithraism: the Evidence of the Small Finds* (*Acta of the international* Conference, 7-8 November 2001, Tienen) (*Archeologie in Vlaanderen* 4) Brussel, 25-56.

MARTENS 2005

MARTENS, F. (2005) The archaeological urban survey of Sagalassos (South-West Turkey): the possibilities and limitations of surveying a non-typical classical site, *Oxford Journal of Archaeology* 24.3, 229-254.

MARTENS 2006

MARTENS, F. (2006) The diachronic Research of urban Water Management at Sagalassos, Southwest-Turkey, in: **WIPLINGER, G.** (ed.) *Cura aquarum in Ephesus* (*Proceedings of the 12th International Congress on the History of Water Management and hydraulic Engineering in the Mediterranean Region*, 2-10 October 2004, Ephesus/Selçuk) Leuven, 165-174.

MARTENS 2007

MARTENS, F. (2007) Late antique urban Streets at Sagalassos, in: **LAVAN, L., ZANINI, E. & SARANTIS, A.** (eds.) *Technology in Transaction A.D. 300-650* (*Late Antique Archaeology* 4) Leiden, 321-365.

MARTENS 2008A

MARTENS, F. (2008a) Urban Traffic in the Hills of the Eastern Mediterranean: the Development, Maintenance and Usage of the Street System at Sagalassos in South-Western Turkey, in: **BALLET, P., DIEUDONNÉ-GLAD, N. & SALIOU C.** (eds.) *La rue dans l'antiquité. Définition, aménagement, devenir*, Rennes, 191-200.

MARTENS 2008B

MARTENS, F. (2008b) Water Abundance and Shortage at Sagalassos (SW-Turkey), in: **OHLIG, C.** (ed.) *Cura aquarum in Ephesus* (*Proceedings of the 13th International Congress on the History of Water Management and hydraulic Engineering in the Mediterranean Region*, 31 March - 9 April 2007, Petra/Amman), Siegburg, 247-262.

MARTENS & DE BOE (EDS.) 2004

MARTENS, M. & DE BOE, G. (eds.) (2004) *Roman Mithraism: the Evidence of the Small Finds* (*Acta of the international* Conference, 7-8 November 2001, Tienen) (*Archeologie in Vlaanderen* 4) Brussel.

MARTENS & VYNCKE 2007

MARTENS, F. & VYNCKE, K. (2007) Water Supply and Evacuation Systems. The 'Eastern Aqueduct' Sondages in the Potters' Quarter, in: Waelkens, M. (ed.) *Sagalassos Excavation Activities in 2007* (non-published internal report), 171-181.

MARTENS *ET AL.* 2008

MARTENS, F., VANHAVERBEKE, H. & WAELKENS, M. (2008) Town and *suburbium* at Sagalassos. An interaction investigated through survey, in: **VANHAVERBEKE, H., POBLOME, J., VERMEULEN, F., WAELKENS, M. & BRULET, R.** (eds.) *Thinking about space. The potential of surface survey and contextual analysis in the definition of space in Roman times* (*Studies in Eastern Mediterranean Archaeology* 8) Leuven, 127-149.

MARTENS *ET AL.* 2012

MARTENS, F., MUŠIČ, B., POBLOME, J. & WAELKENS, M. (2012) The integrated urban Survey at Sagalassos, in: **VERMEULEN, F., BURGERS, G.-J., KEAY, S. & CORSI, C.** (eds.) *Urban Landscape Survey in Italy and the Mediterranean*, Oxford, 84-93.

MARTINEZ CABALLERO & SANTOS YANGUAS 2005

MARTINEZ CABALLERO, S. & SANTOS YANGUAS, J. (2005) Pervivencias indígenas en la *Termes* romana. Elementos para su evaluación, in: **GARCES I ESTALLO, I.** (ed.) *Actas del IX Coloquio sobre lenguas y culturas paleohispánicas* (Acta Palaeohispanica IX, 20-24 Octobre 2004, Barcelona) (*Palaeohispanica* 5) Zaragoza, 685-706.

MARTINEZ CABALLERO 2010A

MARTINEZ CABALLERO, S. (2010a) La ciudad de *Confluentia*. Duratón y su territorio, in: **MARTINEZ, S., SANTIAGO, J. & ZAMORA, A.** (eds.) *Segovia Romana II. Gentes y territorios*, Segovia, 183-220.

MARTINEZ CABALLERO 2010B

MARTINEZ CABALLERO, S. (2010b) El foro romano de Termes (Hispania Citerior). Síntesis histórica, arqueológica y topográfic*.* S. I A.C. – S.. II D.C., *Archivo Español de Arqueología* 83, 221-266.

MARTÍNEZ CABALLERO 2013

MARTÍNEZ CABALLERO, S. (2013) *Forum*, *forum pecuarium* y *campus*: difusión de modelos arquitectónicos en las ciudades romanas de *Confluentia* - Duratón y Termes, in: **CID LÓPEZ, R. M. & GARCÍA FERNÁNDEZ, E. B.** (eds.) *Debita verba: estudios en homenaje al profesor Julio Mangas Manjarrés*, Oviedo, 69-92.

MARTINI 2010

MARTINI, W. (2010) Stadteingang und Stadtgrenze im kaiserzeitlichen Kleinasien. Perge in Pamphylien, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histórico. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 15-34.

MATTINGLY & STONE 2011

MATTINGLY, D.J. & STONE, D.L. (2011) Leptiminus: Profile of a Town, in: **STONE, D.L., MATTINGLY D.J. & LAZREG, B.** (eds.) *Leptiminus (Lamta) Report No. 3. The Field Survey* (*Journal of Roman Archaeology* Supplementary Series 87) Portsmouth, 272-288.

MAURIN 1983

MAURIN, J. (1983) Labor matronalis: aspects du travail féminin à Rome, in: **LEVY, E.** (ed.) *La femme dans les sociétés antiques* (*Actes des colloques de Strasbourg*, May 1980 & March 1981), 139- 151.

MAYER 2012

MAYER, E. (2012) *The ancient Middle Classes*. *Urban Life and Aesthetics in the Roman Empire, 100 BCE-250 CE*, Cambridge.

MCKINLEY 2006

MCKINLEY, J.I. (2006) Cremation... the cheap Option?, in: **GOWLAND, R. & KNÜSEL, C.** (eds.) *Social Archaeology of Funerary Remains*, Oxford, 81-88.

MCKINLEY 2013

MCKINLEY, J.I. (2013) Cremation, Excavation, Analysis, and Interpretation of Material from Cremation-related Contexts, in: **TARLOW, S. & NILSSON STUTZ, L.** (eds.) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford, 147-172.

MCWHIRR *ET AL.* 1982

MCWHIRR, A., VINER, L. & WELLS, C. (1982) *Romano-British Cemeteries at Cirencester* (*Cirencester Excavations* 2), Cirencester.

MELOSI 2005

MELOSI, M.V. (2005) *Garbage in the Cities: Refuse Reform and the Environment*, Pittsurg.

MENSCH 1974

MENSCH, P.J.A. VAN (1974) *A Roman Soup-Kitchen at Zwammerdam?* (*Berichten van de Rijksdienst voor het Oudheidkundig Bodemonderzoek* 24), Amersfoort, 159-165.

MEYER *ET AL.* 2012

MEYER, C., PLESNIČAR, R. & PILZ, D. (2012) Extramural magnetic Survey, in: **CORSI, C. & VERMEULEN, F.** (eds.) *Ammaia I. A Romano-Lusitanian Townscape revealed* (*Archaeological Reports Ghent University* 8), Ghent, 105-114.

MEYERS EMERY 2011

MEYERS EMERY, K. (2011) *Five Reasons for Moving an entire Skeleton* (*Funeral Practices* 10 February 2011). https://bonesdontlie.wordpress.com/2011/02/10/five-reasons-for-moving-an-entire-skeleton/

MEYLAN KRAUSE 2002

MEYLAN KRAUSE, M.-F. (2002) *Aventicum*, les artisans dans la ville, in: **BEAL, J.-C. & GOYON, J.-C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 113-119.

MILLETT *ET AL.* 2000

MILLETT, M., PEARCE, J. & STRUCK, M. (2000) *Burial, Society and Context in the Roman World*, Oxford.

MILNER & SMITH 1994

MILNER, N.P. & SMITH, M.F. (1994) New votive Reliefs from Oinoanda, *Anatolian Studies* 44, 65-76.

MITCHELL 1991

MITCHELL, S. (1991) The Hellenization of Pisidia, *Mediterranean Archaeology* 4, 119-145.

MITCHELL 1992

MITCHELL, S. (1992) Hellenismus in Pisidien, in: **SCHERTHEIM, E.** (ed.) *Forschungen in Pisidien* (*Asia Minor Studien* 6), Münster, 1-27.

MITCHELL 1998

MITCHELL, S. (1998) The Pisidia Survey, in: **MATTHEWS, R.** (ed.) *Ancient Anatolia*, Oxford, 237-253.

MITCHELL 1999

MITCHELL, S. (1999) Greek Epigraphy and social Change. A Study of the Romanization of south-west Asia Minor in the third Century A.D, in: *Atti di XI Congresso Internazionale di Epigrafia Greca e Latina* (18-24 September 1997, Rome) Rome, 419–433.

MITCHELL 2000

MITCHELL, S. (2000) The Settlement of Pisidia in late Antiquity and the Byzantine Period: methodological Problems, in: **BELKE, K., HILD, F., KODER, J. & SOUSTAL P.** (eds.) *Byzanz als Raum*, Vienna, 139-152.

MITCHELL 2006

MITCHELL, S. (2006) *A history of the later Roman Empire AD 284-641. The Transformation of the Ancient World*, Oxford.

MITCHELL & KATSARI 2005

MITCHELL, S. & KATSARI, C. (2005) *Patterns in the Economy of Roman Asia Minor*, Swansea.

MITCHELL & VANDEPUT 2013

MITCHELL, S. & VANDEPUT, L. (2013) Sagalassos and the Pisidia Survey Project: in search of Pisidia's History, in: **POBLOME, J.** (ed.) *Exempli Gratia. Sagalassos, Marc Waelkens and interdisciplinary Archaeology*, Leuven, 97-118.

MITCHELL & WAELKENS 1988

MITCHELL, S. & WAELKENS, M. (1988) Kremna and Sagalassus 1987, *Anatolian Studies* 38, 53-64.

MICHELL *ET AL.* 1989

MITCHELL, S., OWENS, E. & WAELKENS, M. (1989) Ariassos and Sagalassos 1988, *Anatolian Studies* 39, 63-77.

MOLLO MEZZANA 2000

MOLLO MEZZANA, R. (2000) L'organizzazione del suburbio di Augusta Praetoria (Aoste) e le trasformazioni successive, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 149-200.

MOODY & GROVE 1990

MOODY, J. & GROVE, A.T. (1990) Terraces and Enclosure Walls in the Cretan Landscape, in: **BOTTEMA, S., ENTJES-NIEBORG, G. & VAN ZEIST, W.** (eds.) *Man's Role in the Shaping of the Eastern Mediterranean Landscape*, Rotterdam, 183-191.

MORAN 2007

MORAN, K.S. (2007) Unintentional Artefacts: fingerprinting Material Culture, *Journal of Ancient Fingerprints* 1, 16-18.

MORLEY 1996

MORLEY, N. (1996) *Metropolis and Hinterland. The City of Rome and the Italian Economy 200 B.C. - A.D. 200*, London.

MORLEY 1999

MORLEY, N. (1999) The Transformation of the Roman *Suburbium*, in: **CHANT, C.** (ed.) *The pre-industrial Cities and Technology Reader*, London - New York, 76-86.

MORRIS 1976

MORRIS, R.J. (1976) *Cholera 1832. The social Response to an Epidemic*, London.

MORRIS 1989

MORRIS, I. (1989) *Burial and ancient Society. The Rise of the Greek City-State* (paperback edition), Cambridge.

MORRIS 1994

MORRIS, I. (1994[2]) *Death-Ritual and social Structure in classical Antiquity* (*Key Themes in ancient History*), Cambridge.

MUMFORD 1961

MUMFORD, L. (1961) *The City in History: its Origins, its Transformations, and its Prospects*, New York.

MUMFORD 2009[4]

MUMFORD, L. (2009[4]) What is a city?, in: **LEGATES, R.T. & STOUT, F.** (eds.) *The City Reader*, London - New York, 85-89.

MURPHY 2012A

MURPHY, E. (2012a) Doğu Dış mahalle Bölgesinde Yapılan Kazı Çalışmaları: PQ 1, in: **WAELKENS *ET AL.*** (eds.) *Sagalassos 2011 Kazı ve Restorasyon Sezonları* (*XXXIV. Kazı Sonuçları Toplantısı*, Vol. 3, 28 May 28 – 1 June 2012, Çorum) Ankara, 145-146.

MURPHY *ET AL.* 2013

MURPHY, E., CLAEYS, J. & POBLOME, J. (2013) Alan PQ 3, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 250.

MURPHY & POBLOME 2010

MURPHY, E. & POBLOME, J. (2010) Producing pottery vs. producing models: interpreting workshop organization at the Potters' Quarter of Sagalassos, in: **M. LAWALL AND J. LUND** (eds.) *Pottery in the archaeological Record: a View from the Greek World (Proceedings of the International Colloquium Hosted by the Danish and Canadian Institutes in Athens,* 20-22 June 2008, Copenhagen) Aarhus, 30-36.

MURPHY & POBLOME 2012

MURPHY, E. & POBLOME, J. (2012) Technical and social Considerations of Tools from Roman-Period Ceramic Workshops at Sagalassos (Southwest Turkey): not just Tools of the Trade?, *Journal of Mediterranean Archaeology* 25 (2), 71-91.

MURPHY & POBLOME IN PRESS

MURPHY, E. & POBLOME, J. (in press) A Late Antique Ceramic Workshop Complex: Evidence for Workshop Organisation at Sagalassos (southwest Turkey), *Anatolian Studies* 66, s.l.

MURPHY (ED.) 2008

MURPHY, R. (ed.) (2008) *Deviant Burial in the Archaeological Record* (*Studies in funerary Archaeology* 2) Oxford.

MUŠIČ *ET AL.* 2009

MUŠIČ , B., DE LAET, V., MARTENS, F., SIMILOX-TOHON, D.; VERSTRAETEN, G., POBLOME, J., TALLOEN, P., UYTTERHOEVEN, I. & WAELKENS, M. (2009) Geophysics, Satellite Imagery, urban Survey and archaeological Excavations. Complementary Contributions to reconstruct an ancient urban Landscape: the Case of Sagalassos (Turkey) (*13 International Congress on Cultural Heritage and New Technologies*, *3-5 November 2008, Vienna*) s.l.

MYLONOPOULOS 2008

MYLONOPOULOS, J. (2008) The Dynamics of ritual Space in the Hellenistic and Roman East, *Kernos* 21, 49-79.

- N -

NATHANSON 2014

NATHANSON, J.A. (2014) Solid-waste management, *Encyclopædia Britannica Online*. http://www.britannic.com/EBchecked/topic/553362/solid-waste-management

NEUDECKER 1988

NEUDECKER, R. (1988) *Die Skulpturenausstattung römischer Villen in Italien*, Mainz am Rhein.

NEYT *ET AL.* 2012

NEYT, B., BRAEKMANS, D., POBLOME, J., ELSEN, J., WAELKENS, M. & DEGRYSE, P. (2012) Long-term Clay raw Material Selection and Use in the Region of Classical/Hellenistic to Early Byzantine Sagalassos (SW Turkey), *Journal of Archaeological Science* 39, 1296-1305.

NICHOLAS 1981

NICHOLAS, I.M. (1981) Investigating an ancient Suburb. Excavations at the TUV-Mound, Tal-e-Malyan, Iran, *Expedition* 23, 39-47.

NIN 2002

NIN, N. (2002) L'artisanat à Aix-en-Provence durant l'Antiquité, in: **BEAL, J.-C. & GOYON, J.-C.** (eds.) *Les artisans dans la ville antique* (*Collection archéologie et histoire de l'Antiquité* 6) 235-250.

NIN *ET AL.* 1987

NIN, N., DE LUCA, B. & CHARLET, J.-L. (1987) La voie aurélienne et ses abords à Aix-en-Provence. Nouvelles données sur un paysage périurbain, *Revue Archéologique de Narbonnaise* 20, 191-280.

NIXON 1977

NIXON, L.F. (1977) *The archaeological Record of the Galatians in Anatolia*, *278-63 B.C.* (unpublished master thesis, University of Columbia).

NOCK 1932

NOCK, A.D. (1932) Cremation and Burial in the Roman Empire, *Harvard Theological Review* 25, 321-359.

NOCK 1972

NOCK, A.D. (1964) *Early gentile Christianity and its Hellenistic Background*, New York.

NOY 2000A

NOY, D. (2000a) Half-burnt on an Emergency Pyre: Roman Cremations which went wrong, *Greece & Rome* 47, 186-196.

NOY 2000B

NOY, D. (2000b) Building a Roman Funeral Pyre, *Antichthon* 34, 30-45.

NUTTON 2000

NUTTON, V. (2000) Medical Thoughts on urban Pollution, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the ancient City*, London, 65-73.

NUTTON 2005

NUTTON, V. (2005) *Ancient Medicine*, London - New York.

- O -

OGDEN 2002

OGDEN, D. (2002) *Magic, Witchcraft and Ghosts in the Greek and Roman World*, Oxford.

OGDEN 2004

OGDEN, D. (2004) *Greek and Roman Necromancy*, Princeton.

ORTON 2002

ORTON, C. (2002) The Sherds tell a Story: Roman rural Potters in northwest London, *Archaeology International* 6. http://www.ai-journal.com/article/viewFile/ai.0606/141

ORUM & CHEN 2003

ORUM, A.M. & CHEN, X. (2003) *The World of Cities: Places in comparative and historical Perspective*, Oxford.

OSBORNE 1987

OSBORNE, R. (1987) *Classical Landscape with Figures. The ancient Greek City and its Countryside*, London.

OSIEK 2012

OSIEK, C. (2012) Roman and Christian Burial Practices and the Patronage of Women (Chapter 7), in: Brink, L. & Green, D. (eds.) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York, 243-272.

O'SULLIVAN 2011

O'SULLIVAN, T. (2011) *Walking in Roman Culture*, Cambridge.

OTTAWAY *ET AL.* 2012

OTTAWAY, P., QUALMANN, K.E., REES, H., SCOBIE, G. (2012) *The Roman Cemeteries and Suburbs of Winchester, Excavations 1971 -1986*, Winchester.

OTTENBURGS *ET AL.* 1993

OTTENBURGS, R**., JORISSEN, C., & VIAENE, W.** (1993) Study of the clays, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986–1989) and Excavations (1990–1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 163–169.

OTTONI *ET AL.* 2011

OTTONI, C., RICAUT, F.X., VANDERHEYDEN, N., BRUCATO, N., WAELKENS, M. & DECORTE, R. (2011) Mitochondrial analysis of a Byzantine population reveals the differential impact of multiple historical events in South Anatolia, *European Journal of Human Genet*ics 19(5), 571–576.

OTTONI *ET AL.* 2016

OTTONI, C., RASTEIRO, R., WILLET, R., CLAEYS, J., TALLOEN, P., VAN DE VIJVER, K., CHIKHI, L., POBLOME, J. & DECORTE, R. (2016) Comparing maternal genetic Variation across two Millennia reveals the demographic History of an ancient human Population in Southwest Turkey, *Royal Society Open Science* 3: 150250.

OWENS 1991

OWENS, E.J. (1991b) The Kremna Aqueduct and Water Supply in Roman Cities, *Greece and Rome* 38, 47-58.

OWENS 1995

OWENS, E. (1995) The Aqueducts of Sagalassos, in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos III. Report on the fourth Excavation Campaign of 1993* (*Acta Archaeologica Lovaniensia Monographiae* 7) Leuven, 91-114.

- P -

PAGAN 2006

PAGAN, V.E. (2006) *Transgression and Transformation in Horace Satire 1.8*. https://camws.org/meeting/2006/abstracts/pagan.html

PAILLARD 1998

PAILLARD, D. (1998) Un *suburbium* à Lisieux (Calvados) et mouvance périphérique d'une cité. L'apport du site archéologique Michelet, in: **BEDON, R.** (ed.) Suburbi*a: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 151-162.

PANCIERA 1999

PANCIERA, S. (1999) Dove finisce la città, in: **QUILICI GIGLI, S.** (ed.) *La forma della città e del territorio* (*Atti dei'Incontro di Studio, 27-28 November 1998, Sta. María de Capua*) (*Atlante tematico di topografia antica* Supplement 5) Roma, 9-15.

PAPADOPOULOS 2003

PAPADOPOULOS, J.K. (2003) Ceramicus Redivivus: *the Early Iron Age Potters' Field in the Area of the Classical Athenian Agora* (*Hesperia* Supplement 31), Lisse.

PAPAGEORGAKIS & KOLAITI 1992

PAPAGEORGAKIS, J. & KOLAITI, E. (1992) The Ancient Limestone Quarries of Profitis Elias near Delfi (Greece), in: **WAELKENS, M., HERZ, N. & MOENS, L.** (eds.) *Ancient Stones: Quarrying, Trade and Provenance. Interdisciplinary Studies on Stones and Stone Technology in Europe and Near East from the Prehistoric to the Early Christian Period* (*Acta Archaeologica Lovaniensia Monographiae* 4), Leuven, 37-41.

PARKIN & POMEROY 2007

PARKIN, T. G. & POMEROY, A. J. (2007) *Roman Social History. A Sourcebook*, London.

PATTERSON 1992

PATTERSON, J.R. (1992) Patronage, *Collegia* and Burial in Imperial Rome, in: **BASSETT, S.** (ed.) *Death in Towns: urban Responses to the Dying and the Dead, 100-1600*, Leicester, 15-27.

PASQUINUCCI & MENCHELLI 2008

PASQUINUCCI, M. & MENCHELLI, S. (2008) *Pisae* and its *Suburbium*: looking for the ancient Lanscape in the urban Periphery, in: **VANHAVERBEKE, H., POBLOME, J., VERMEULEN, F., WAELKENS, M. & BRULET, R.** (eds.) *Thinking about Space: the Potential of Surface Survey and contextual Analysis in the Definition of Space in Roman Times*, Turnhout, 115-125.

PATTERSON 2000

PATTERSON, J.R. (2000) On the Margins of the City of Rome, in: **HOPE, V.M. & MARSHALL, E.** (eds.) *Death and Disease in the ancient City*, London, 85-103.

PAULISSEN *ET AL.* 1993

PAULISSEN, E., POESEN, J., GOVERS, G. & DE PLOEY, J. (1993) The physical Environment at Sagalassos (Western Taurus, Turkey). A Reconnaissance Survey, in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos II. Report on the third Excavation Campaign of 1992* (*Acta Archaeologica Lovaniensia Monographiae* 6) Leuven, 229-247.

PEACHIN (ED.) 2011

PEACHIN, M. (ed.) (2011) *The Oxford Handbook of social Relations in the Roman World*, Oxford.

PEACOCK 1982

PEACOCK, D.P.S. (1982) *Pottery in the Roman World: an enthoarchaeological Approach*, London – New York.

PEARCE 2015

PEARCE, J. (2015) A 'civilised' Death? The Interpretation of provincial Roman Grave Good Assemblages, in: **BRANDT, J.R., PRUSAC, M. & ROLAND, H.** (eds.) *Death and changing Rituals. Function and Meaning in ancient funerary Practices*, Oxford & Philadelphia, 223-248.

PELLETIER 1982

PELLETIER, A. (1982) *L'Urbanisme romain sous l'Empire*, Paris.

PERGOLA ET AL. (EDS.) 2003

PERGOLA, P., SANTANGELI VALENZANI, R. & VOLPE, R. (eds.) (2003) *Suburbium. Il suburbio di Roma dalla crisi del sistema delle ville a Gregorio Magno* (*Collection de l'École française de Rome* 311), Rome.

PERRIER 1998

PERRIER, J. (1998) *Augustoritum*, Limoges: faubourgs et banlieue, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 105-124.

PERRING 1991

PERRING, D. (1991) Spatial Organization and social Change in Roman Towns, in: **RICH, J. & WALLACE-HADRILL, A.** (eds.) *City and Country in the ancient World*, London, Ch. 11, 273-293.

PERRY 2011

PERRY, J.S. (2011) Organized Societies: *Collegia*, in: **PEACHIN, M.** (ed.) *The Oxford Handbook of social Relations in the Roman World*, Oxford, 499-515.

PESCHLOW-BINDOKAT 1990

PESCHLOW-BINDOKAT, A. (1990) *Die Steinbrüche von Selinunt. Die Cave di Cusa und die Cave di Barone*, Mainz am Rhein.

PICARD 1986

PICARD, G.C. (1986) Banlieues de villes dans l'Afrique romaine, in: **COMITE DES TRAVAUX HISTORIQUES ET SCIENTIFIQUES** (eds.) *Histoire et Archéologie de l'Afrique du Nord* (*Actes du IIIe Colloque International,* 1-5 April 1985, Montpellier) Paris, 143-148.

PIGGOT 1965

PIGGOTT, S. P. (1965) *Ancient Europe from the Beginnings of Agriculture to Classical Antiquity. A Survey*, Edinburgh.

PLATNER 1929

PLATNER, S.B. (1929) *A topographical Dictionary of ancient Rome*, Cambridge.

POBLOME 1999A

POBLOME, J. (1999a) *Sagalassos Red Slip Ware. Typology and Chronology* (*Studies in Eastern Mediterranean Archaeology* 2) Leuven.

POBLOME 1999B

POBLOME, J. (1999b) The Potters Quarter, in: **WAELKENS, M., VERMEERSCH, P.M., ÖZTÜRK, I. & EKINCI, H.A.** (eds.) The 1997 Excavations Campaign at Sagalassos and Dereköy (*XX. Kazı Sonuçları Toplantısı*, Vol. 2, 25-29 May 1998, Tarsus) Ankara, 293-295.

POBLOME 2002

POBLOME, J. (2002) The Potters' Quarter, in: **WAELKENS, M.** (ed.) Report on the 2000 Excavation and Restoration Season at Sagalassos (*XXIII. Kazı Sonuçları Toplantısı*, Vol. 1, 28 May - 1 June 2001, Ankara) Ankara, 13-15.

POBLOME 2004A

POBLOME, J. (2004a) The Potters' Quarter, in: **WAELKENS, M.** (ed.) Report on the 2002 Excavation and Restoration Campaign at Sagalassos (*XXV. Kazı Sonuçları Toplantısı*, Vol. 1, 26-31 May 2003, Ankara) Ankara, 215-216.

POBLOME 2004B

POBLOME, J. (2004b) Comparing Ordinary Craft Production: Textile and Pottery Production in Roman Asia Minor, *Journal of the Economic and Social History of the Orient* 47 (4), 491-506.

POBLOME 2006A

POBLOME, J. (2006) Mixed feelings on Greece and Asia Minor in the third century AD, in: **MALFITANA, D., POBLOME, J. & LUND, J.** (eds.) *Old Pottery in a New Century. Innovating perspectives in Roman pottery studies*, Catania, 189-212.

POBLOME 2006B

POBLOME, J. (2006) Made in Sagalassos. Modelling regional Potential and Constraints, in: **MENCHELLI, S. & PAQUINUCCI, M.** (eds.) *Territorio e produzioni ceramiche: paesaggi, economia e società in età romana* (*Instrumenta* 2) Pisa, 355-363.

POBLOME 2008A

POBLOME, J. (2008a) Sherds and Coins from a Place under the Sun. Further Thoughts from Sagalassos, *Facta. A Journal of Roman Material Culture Studies* 2, 193-213.

POBLOME 2008B

POBLOME, J. (2008b) Ex oriente lux. A panorama of craft studies in the Roman East, *Zeitschrift für Schweizerische Archäologie und Kunstgeschichte* 65, 79-83.

POBLOME 2012

POBLOME, J. (2012) Word *versus* Dirt. History and Archaeology applied to proto-historical Sagalassos, in: **BOIY, T., BRETSCHNEIDER, J., GODDEERIS, A., HAMEEUW, H., JANS, G. & TAVERNIER, J.** (2012) *The ancient Near East, a Life! Festschrift Karel Van Lerberghe* (*Orientalia Lovaniensia Analecta* 220), Leuven, 457-470.

POBLOME 2013

POBLOME, J. (2013) Money makes Pottery go round, in: **POBLOME, J.** (ed.) *Exempli Gratia. Sagalassos, Marc Waelkens and interdisciplinary Archaeology*, Leuven, 81-96.

POBLOME 2014

POBLOME, J. (2014) Shifting societal complexity in Byzantine Asia Minor and Dark Age pottery, in: *LRCW4. 4th International Conference on Late Roman Coarse Ware, Cooking Ware and Amphorae in the Mediterranean. Archaeology and Archaeometry. Mediterranean: a Market without Frontiers* (International Conference 7-10 April 2011, Thessaloniki) (*BAR International Series*), 623-642.

POBLOME 2015

POBLOME, J. (2015) Life in the Late Antique Countryside of Sagalassos, in: **METIN, H., POLAT BECKS, B.A., BECKS, R. & FIRAT, M.** (eds.) *Pisidian Essays in Honour of Hacı Ali Ekinci*, Istanbul, 99-110.

POBLOME IN PRESS

POBLOME, J. (in press) The Potters of ancient Sagalassos revisited, in: **WILSON, A.** & **FLOHR, M.** (eds.) *Beyond Marginality: Craftsmen, Traders and the socioeconomic History of urban Communities in the Roman World*, Oxford, s.l.

POBLOME (ED.) 2013

POBLOME, J. (ed.) (2013) *Exempli Gratia. Sagalassos, Marc Waelkens and interdisciplinary Archaeology*, Leuven.

POBLOME & BRULET 2005

POBLOME, J. & BRULET, R. (2005) Production Mechanisms of Sigillata Manufactories. When East meets West, in: **BERG BRIESE, M. & VAAG, L.E.** (eds.) *Trade Relations in the Eastern Mediterranean van Late Hellenistic Period to Late Antiquity: The Ceramic Evidence* (*Halicarnassian Studies* 3) Odense, 27-36.

POBLOME & BUYURAN 1997

POBLOME, J. & BUYURAN, Ö. (1997) The Potters' Quarter, in: **WAELKENS, M.** (ed.) *Survey, Excavations and Restoration Activities at Sagalassos 1997* (unpublished internal report), 113-117.

POBLOME & DEGRYSE 2001

POBLOME, J. & DEGRYSE, P. (2001) Sondages and Drillings in the Potters' Quarter, in: **WAELKENS, M.** (ed.) The 1998-99 Excavation and Restoration Season at Sagalassos (*XXII. Kazı Sonuçları Toplantısı*, Vol. 2, 22-26 May 1998, Izmir) Ankara, 166.

POBLOME & WAELKENS 1998

POBLOME, J. & WAELKENS, M. (1998) Recent Excavations in the Potters' Quarter of Roman Sagalassos, *Near Eastern Archaeology* 61, no. 2, 129.

POBLOME & ZELLE 2002

POBLOME, P. & ZELLE, M. (2002) The tableware boom: a socio-economic Perspective from western Asia Minor, in: **BERNS, C. & VANDEPUT, L.** (eds.) *Patris und Imperium: kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasiens in der frühen Kaiserzeit* (*Akten des Kolloquiums 'Kontinuität und Diskontinuität in den Städten des frühkaiserzeitlichen Kleinasiens'*, 19-21 November 1998, Köln) (*Bulletin Antieke Beschaving Babesch* Supplement 8), Leuven-Paris, 275-287.

POBLOME & FIRAT 2012

POBLOME, J. & FIRAT, N. (2012) Late Roman D. A Matter of open(ing) or closed Horizons?, in: **ÁNGEL CAU, M., REYNOLDS, P. & BONIFAY, M.** (eds.) *LRFW 1. Late Roman Fine Wares. Solving Problems of Typology and Chronology. A Review of the Evidence, Debate and new Contexts* (*Roman and Late Antique Mediterranean Pottery* 1) Oxford, 49-55.

POBLOME *ET AL.* 1993

POBLOME, J., DEGEEST, R., WAELKENS, M. & SCHELTENS, E. (1993) The fine ware, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general report on the survey (1986-1989) and excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 113-130.

POBLOME *ET AL.* 1998A

POBLOME, J., DEGRYSE, P., LIBRECHT, I. & WAELKENS, M. (1998a) Sagalassos Red Slip Ware. The Organisation of a Manufactory, *Münstersche Beiträge zur antiken Handelsgeschichte* 52 (17.2), 52–64.

POBLOME *ET AL.* 1998B

POBLOME, J., SCHLITZ, L. & DEGRYSE, P. (1998b) Recycling misfired Pottery. A Standard Practice of the Potters at ancient Sagalassos?, *Forum Archaeologiae. Zeitschrift für klassische Archäologie* 9.7.
http://homepage.univie.ac.at/elisabeth.trinkl/forum/forum1298/09halde.htm

POBLOME *ET AL.* 2000

POBLOME, J., BOUNEGRU, O. & BRULET, R. (2000) The Concept of Sigillata: Regionalism or Integration?, *Rei cretariae Romanae fautorum acta* 36, 279-283.

POBLOME *ET AL.* 2001

POBLOME, J., BOUNEGRU, O., DEGRYSE, P., VIAENE, W., WAELKENS, M. & ERDEMGIL, S. (2001) The sigillata Manufactories of Pergamon and Sagalassos, *Journal of Roman Archaeology* 14, 143–165.

POBLOME *ET AL.* 2002A

POBLOME, P., DEGRYSE, P., VIAENE, W., OTTENBURGS, R., WAELKENS, M., DEGEEST, R. & NAUD, J. (2002a) The Concept of a Pottery Production Centre. An archaeometrical Contribution from Ancient Sagalassos, *Journal of Archaeological Science* 29, 873-882.

POBLOME *ET AL.* 2002B

POBLOME, J., DEGRYSE, P., VIAENE, W. & WAELKENS, M. (2002b) An Augustan pottery workshop at Sagalassos, in: **KILIKOGLOU, V., HEIN, A. & MANIATIS, Y.** (eds.) *Modern trends in scientific studies on ancient ceramics. Papers presented at the 5th European Meeting on ancient Ceramics* (18 – 20 October 1999, Athens) (*British Archaeological Reports* international series 1011) Oxford, 335-342.

POBLOME *ET AL.* 2004

POBLOME, J., BES, P. & DEGRYSE, P. (2004) The Decline and Fall of Sagalassos. A ceramic Perspective, *Rei Cretariæ Romanæ Favtorvm Acta* 39, 1-6.

POBLOME *ET AL.* 2008

POBLOME, J., CORREMANS, M., BES, P., ROMANUS, K. & DEGRYSE, P. (2008) It is never too late… The Late Roman Initiation of Amphora Production in the Territory of Sagalassos, in: **DELEMEN, I., ÇOKAY-KEPÇE, S., ÖZDIBAY, A. & TURAK, Ö.** (eds.) *Euergetes. Festschrift für Prof. Dr. Haluk Abbasoğlu zum 65. Geburtstag*, Antalya, 1001-1012.

POBLOME *ET AL.* 2010A

POBLOME, J., MURPHY, E. & WILLET, R. (2010a) Doğu Suburbium'u, in: **WAELKENS, M.** (ed.) Sagalassos 2008 ve 2009 kazı ve restorasyon sezonları (*XXXI. Kazı Sonuçları Toplantısı*, Vol. 3, 24-28 May, Istanbul), Ankara, 273-274.

POBLOME *ET AL.* 2010B

POBLOME, J., BES, P., DE CUPERE, B., LAUWERS, V., ROMANUS, K., VIONIS, A.K. & WAELKENS, M. (2010b) Sic transit gloria mundi. Does it really? Wasting seventh Century AD Sagalassos (SW Turkey), in: **MENCHELLI, S., SANTORO, S., PASQUINUCCI, M. & GUIDUCCI, G.** (eds.) *LRCW3. Late Roman coarse Wares, cooking Wares and Amphorae in the Mediterranean. Archaeology and Archaeometry. Comparison between western and eastern Mediterranean*, Oxford, 791-801.

POBLOME *ET AL.* 2011

POBLOME, J., BRAEKMANS, D., WAELKENS, M., FIRAT, N., VANHAVERBEKE, H., MARTENS, F., KAPTIJN, E., VYNCKE, K., WILLET, R. & DEGRYSE, P. (2011) How did Sagalassos come to be? A ceramological Survey, in: **TEKOCAK, M.** (ed.) *Festschrift for Levent Zoroğlu*, Antalya, 527-540.

POBLOME *ET AL.* 2013A

POBLOME, J., WILLET, R., FIRAT, N., MARTEN, F. & BES, P. (2013a) Tinkering with urban Survey Data: how many Sagalassos-es do we have?, in: **JOHNSON, P., MILLETT, M.** (eds.) *Archaeological Survey and the City* (*Laurence seminar*, 25-28 May 2010, Cambridge) Oxford, 146-174.

POBLOME *ET AL.* 2013B

POBLOME, J., BRAEKMANS, D., MUŠIČ, B., VAN DER ENDEN, M., NEYT, B., DE GRAEVE, B. & DEGRYSE, P. (2013b) A Pottery Kiln underneath the Odeon of ancient Sagalassos. The Excavation Results, the Table Wares and their archaeometrical Analysis, in: **FENN, N. & RÖMER-STREHL, C.** (eds.) *Networks in the Hellenistic World. According to the pottery in the Eastern Mediterranean and beyond* (*BAR International Series* 2539) Oxford, 193-204.

POBLOME *ET AL.* IN PRESS

POBLOME, J., TALLOEN, P., KAPTIJN, E. (in press) Byzantine Sagalassos, in: **NIEWÖHNER, P.** (ed.) *The Archaeology of Byzantine Anatolia. From Late Antiquity to the Coming of the Turks*, Leiden.

POBLOME *ET AL.* ACCEPTED

POBLOME, J., ULENERS, H., UYTTERHOEVEN, I., MARINOVA-WOLFF, E. & DE CUPERE, B. (accepted) The 2012 to 2014 Excavation Campaigns at Site LE, Sagalassos. The structural Remains and general Phasing, *Anatolica* 41, s.l.

POLFER 2000

POLFER, M. (2000) Reconstructing funerary Rituals: the Evidence of *Ustrina* and related archaeological Structures, in: **MILLETT, M., PEARCE, J. & STRUCK, M.** (eds.) *Burial, Society and Context in the Roman World*, Oxford, 30-37.

POTTER 2007

POTTER, D. (2007) *Emperors of Rome. The Story of Imperial Rome from Julius Caesar to the last Emperor*, London.

POULOU-PAPADIMITRIOU *ET AL.* 2012

POULOU-PAPADIMITRIOU, N., TZAVELLA, E. & OTT, J. (2012) Burial Practices in Byzantine Greece: archaeological Evidence and methodological Problems for its Interpretation, in: **SALAMON, M., WOŁOSZYN, M., MUSIN, A., ŠPEHAR, P., HARDT, M., KRUK, M.P. & SULIKOWSKA-GĄSKA, G.** (eds.) *Rome, Constantinople and newly-converted Europe. Archaeological and historical Evidence*, Kraków-Leipzig-Rzeszów-Warszawa, 377-428.

PRICE & NIXON 2005

PRICE, S. & NIXON, L. (2005) Ancient Greek agricultural Terraces: Evidence from Texts and archaeological Survey, *American Journal of Archaeology* 109, 1-30.

PURCELL 1987A

PURCELL, N. (1987a) Tomb and Suburb, in: **VON HESBERG, H. & ZANKER, P.** (eds.) *Römische Gräberstraßen. Selbstdarstellung - Status - Standard*, Munich, 25-41.

PURCELL 1987B

PURCELL, N. (1987b) The Nicopolitan Synoecism and Roman urban Policy, in: **CHRYSOS, E.** (ed.) *Nicopolis I* (*Proceedings of the first International Symposium on Nicopolis*, 23-29 September 1984, Nicopolis), Preveza, 71-90.

PURCELL 1987C

PURCELL, N. (1987c) Town in Country and Country in Town, in: **MACDOUGALL, E.B.** (ed.) *Ancient Roman* Villa *Gardens*, 185-203.

PURCELL 1995

PURCELL, N. (1995) The Roman *Villa* and the Landscape of Production, in: **CORNELL, T. & LOMAS, K.** (eds.) *Urban Society in Roman Italy*, 151-180.

PURCELL 1996

PURCELL, N. (1996) The Roman Garden as a Domestic Building, in: **BARTON, I.M.** (ed.) *Roman domestic Buildings* (*Exeter Studies in History*), ch. 5.

DE PURY-GYSEL 2011

PURY-GYSEL, A. DE (2011) *Aventicum* (Avenches), Capital of the *Helvetii*: a History of Research, 1985-2010. Part I. Early Roman *Aventicum* and its Origins, *Journal of Roman Archaeology* 24, 7-46.

PUTZEYS 2007

PUTZEYS, T. (2007) *Contextual Analysis at Sagalassos. Developing a methodology for Classical Archaeology* (unpublished PhD dissertation, University of Leuven).

- R -

RACKHAM 1994

RACKHAM, D. J. (1994) *Animal Bones* (*Interpreting the Past*), London.

RAMALLO *ET AL.* 2010

RAMALLO, S., MURCIA, A.J. & VIZCAINO, J. (2010) *Carthago Nova* y su espacio suburbano. Dinámicas de ocupación en la periferia de la *urbs*, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 211-254.

REBAY-SALISBURY 2012

REBAY-SALISBURY, K. (2012) Inhumation and Cremation: how burial practices are linked to beliefs, in: **SØRENSEN, M. L. S. & REBAY-SALISBURY, K.** (eds.) *Embodied Knowledge: historical Perspectives on Technology and Belief*, Oxford, 15-26.

REECE 1977

REECE, R. (1977) *Burial in the Roman World*, London.

RETIEF & CILLIERS 2006A

RETIEF, F.P. & CILLIERS, L. (2006a) Burial Customs and the Pollution of Death in Ancient Greece, *Acta Theologica 26 (2) (Supplementum 7),* 44-62.

RETIEF & CILLIERS 2006B

RETIEF, F.P. & CILLIERS, L. (2006b) Burial Customs and the Pollution of Death in Ancient Rome. Procedures and Paradoxes, *Acta Theologica* 26 (2) (*Supplementum* 7), 128-146.

RICAUT & WAELKENS 2008

RICAUT, F.-X. & WAELKENS, M. (2008) Cranial discrete traits in a Byzantine population and eastern Mediterranean population movements, *Human Biology* 80 (5), 535-564.

RICH & WALLACE-HADRILL (EDS.) 1991

RICH, J. & WALLACE-HADRILL, A. (eds.) (1991) *City and Country in the Ancient World*, London.

RICHARDSON 1985

RICHARDSON, N. (1985) Early Greek Views about Life after Death, in: **EASTERLING, P. & MUIR, J.** (eds.) *Greek religion and society*, Cambridge, 50–66.

RICHARDSON 1992

RICHARDSON, L. (1992) *A new topographical Dictionary of ancient Rome*, Baltimore.

ROBERTS 2013

ROBERTS, C. (2013) The Bioarchaeology of Health and Well-Being: its Contribution to Understanding the Past, in: **TARLOW, S. & NILSSON STUTZ, L.** (eds.) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford, 79-98.

ROBINSON 1992

ROBINSON, O.F. (1992) *Ancient Rome. City Planning and Administration*, London – New York.

RODRÍGUEZ-ALMEIDA 2000

RODRÍGUEZ-ALMEIDA, E. (2000) Roma, una città *self-cleaning*, in: **DUPRÉ RAVENTÓS , X. & REMOLÀ, J.A.** (eds.) *Sordes Urbis: la eliminación de residuos en la ciudad romana* (*Biblioteca Italica* 24), Rome, 123-127.

RODRIGUEZ AZOGUE & FERNANDEZ FLORES 2005

RODRIGUEZ AZOGUE, A. & FERNANDEZ FLORES, A. (2005) La ciudad fuera la ciudad. En torno a *Hispalis* extramuros, in: **JIMENEZ SANCHO, A.** (ed.) *La catedral en la ciudad* (I). *Sevilla, de Astarté a San Isidoro*, Sevilla, 161-189.

ROSEN & SLUITER (EDS.) 2006

ROSEN, R. & SLUITER, I. (eds.) (2006) *City, Countryside and the spatial Organisation of Value in Classical Antiquity*, Leiden.

ROSKAMS (ED.) 1996

ROSKAMS, S. (ed.) (1996) *Interpreting Stratigraphy 8* (*Proceedings of the Conference held at the Department of Archaeology*, 15 February 1996, University of York) York.

ROUILLARD 2014

ROUILLARD, P. (2014) Quelle archéologie du *proasteion*?, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) Proasteion*. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 247-249.

RUIZ OSUNA 2010

RUIZ OSUNA, A. (2010) *Viae sepulchrales* y paisaje funerario, in: **VAQUERIZO, D. & MURILLO, J.F.** (eds.) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19), Cordoba, 380-405.

RUMBLE 2009

RUMBLE, V.R. (2009) *Soup through the Ages. A culinary History with Period Recipes*, Jefferson.

RUTER 1834

RUTER, M. (1834) *The Martyrs: or, a History of Persecution from the Commencement of Christianity to the present Time, including an Account of the Trials, Tortures, and triumphant Deaths of many who have suffered Martyrdom*, Cincinatti.

- S -

SABLAYROLLES 1996

SABLAYROLLES, R. (1996) *Libertinus miles. Les cohortes de vigiles*, Rome.

SALLER 2012

SALLER, R.P. (2012) Human Capital and economic Growth, in: **SCHEIDEL, W.** (ed.) *The Cambridge Companion to the Roman Economy*, Cambridge, 71-86.

SALMON & SHIPLEY (EDS.) 1996

SALMON, J. & SHIPLEY, G. (eds.) (1996) *Human Landscapes in Classical Antiquity: Environment and Culture* (*Leicester-Nottingham Studies in Ancient Society* 6), London.

SAMMARCO & SPRAGUE 2010

SAMMARCO, C. & SPRAGUE, R. (2010) *Lecture 11: Slips, Engobes and Terra sigillatas* (unpublished grad lecture at Alfred University, New York).
http://www.claystore.alfred.edu/rawmats/presentations/RawMats/Class-11 (slips, engobes and sig.pdf

SANCHEZ RAMOS 2007

SANCHEZ RAMOS, I. (2007) Cristanización de las necrópolis de *Cordvba*. Fuentes escritas y testimonios arqueológicos, *Archivo Español de Arqueología* 80, 191-206.

SANIDAS 2014

SANIDAS, G.M. (2014) La question des activités “à nuisance” dans les villes grecques: *intra* ou *extra muros*?, in: **DARCQUE, P., ÉTIENNE, R. & GUIMIER-SORBETS, A.-M.** (eds.) Proasteion*. Recherches sur le périurbain dans le monde grec* (*Travaux de la Maison Archéologie & Ethnologie, René-Ginouvès* 17) Paris, 173-191.

SANTORO BIANCI 1998

SANTORO BIANCHI, S. (1998) *Aquileia*, area urbana suburbio e “submontanea castella” alla luce della produzione fittile, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 259-276.

SANTORO & SASSI 2010

SANTORO, S. & SASSI, B. (2010) Fra terra, mare, colline e lagune: le aree suburbane di Dyrrachium (Durrës, Albania), in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histórico. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 35-52.

SARADI 2006

SARADI, H.G. (2006) *The Byzantine City in the sixth Century. Literary Images and historical Reality*, Athens.

SASSATELLI & DONATI (EDS.) 2005

SASSATELLI, G. & DONATI, A. (eds.) (2005) *Bologna nell’antichità* (*Storia di Bologna* 1), Bologna.

SAVAS & BAUMOL 1977

SAVAS, E.S. & BAUMOL, D. (1977) *The Organization and Efficiency of Solid Waste Collection*, Lexington.

SCAGLIARINI 1991

SCAGLIARINI, D. (1991) Bologna (Bononia) and its suburban Territory, in: **BARKER, G. & LLOYD, J.** (eds.) *Roman Landscapes. Archaeological Survey in the Mediterranean Region* (*Archaeological Monographs of the British School at Rome* 2) London, 88-95.

SCAGLIARINI 2005

SCAGLIARINI, D. (2005) Il *suburbium* di Bononia: edifici pubblici, ville, fabbriche tra città e territorio, in: **SASSATELLI, G. & DONATI, A.** (eds.) *Bologna nell’antichità* (*Storia di Bologna* 1), Bologna, 535-558.

SCHATTNER & RUIPEREZ 2010

SCHATTNER, TH. & RUIPEREZ, H. (2010) Entradas a ciudades romanas de Hispania: el ejemplo de Córdoba, in: **VAQUERIZO, D.** (ed.) *Las áreas suburbanas en la Ciudad Histór*ic*. Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba, 95-116.

SCHEID 1990

SCHEID, J. (1990) *Romulus et ses frères. Le collège des frères arvales, modèle du culte public dans la Rome des empereurs*, Rome.

SCHEID 2011

SCHEID, J. (2011) Graeco-Roman cultic Societies, in: **PEACHIN, M.** (ed.) *The Oxford Handbook of social Relations in the Roman World*, Oxford, 535-547.

SCHEIDEL & FRIESEN 2009

SCHEIDEL, W. & FRIESEN, S.J. (2009) The Size of the Economy and the Distribution of Income in the Roman Empire, *Journal of Roman Studies* 99, 61-91.

SCHEIDEL *ET AL.* (EDS.) 2014

SCHEIDEL, W., MORRIS, I. & SALLER, R.P. (eds.) (2014) *The Cambridge economic History of the Greco-Roman World*, Cambridge.

SCHÖRNER 2011

SCHÖRNER, H. (2011) The intra-urban Burial inside Greek *Poleis* in Asia Minor. The Example of Termessos, in: **HENRY, O.** (ed.) *Le mort dans la ville. Pratiques, contextes et impacts des inhumations* intra-muros *en Anatolie, du début de l'Âge du Bronze à l'époque romaine* (*Actes des 2e Rencontres d'Archéologie de l'IFÉA*, 14-15 November 2011, Istanbul) Istanbul, 223-230.

SCHOTSMANS *ET AL.* 2012

SCHOTSMANS, E.M.J., DENTON, J., DEKEIRSSCHIETER, J., IVANEANU, T., LEENTJES, S., JANAWAYA, R.C. & WILSON, A.S. (2012) Effects of hydrated lime and quicklime on the decay of buried human remains using pig cadavers as human body analogues, *Forensic Science International* 217 (1-3), 50-59.

SCOBIE 1986

SCOBIE, A. (1986) Slums, Sanitation, and Mortality in the Roman World, *Klio* 68, 399-433.

SCOTT 2013

SCOTT, M. (2013) *Space and Society in the Greek and Roman Worlds* (*Key Themes in ancient History*), Cambridge.

SHEPHERD 2005

SHEPHERD, G. (2005) Dead Men tell no Tales: ethnic Diversity in Sicilian Colonies and the Evidence of the Cemeteries, *Oxford Journal of Archaeology* 24, 115-136.

SCHIPLEY 2000

SHIPLEY, G. (2000) *The Greek World after Alexander 323-30 BC*, London – New York.

SHIPLEY & SALMON (EDS.) 1996

SHIPLEY, G. & SALMON, J. (eds.) (1996) *Human Landscapes in Classical Antiquity. Environment and Culture* (*Leicester-Nottingham Studies in Ancient Society* 6), London – New York.

SIMILOX-TOHON *ET AL.* 2004

SIMILOX-TOHON, D., VANNESTE, K., SINTUBUN, M., MUCHEZ, P. & WAELKENS, M. (2004) Two-dimensional Resistivity Imaging: a Tool in Archaeoseismology. An Example from Ancient Sagalassos (Southwest Turkey), *Archaeological Prospection* 11, 1-18, doi: 10.1002/arp.218.

SIMILOX-TOHON *ET AL.* 2005

SIMILOX-TOHON, D., SINTUBIN, M., MUCHEZ, P., VANHAVERBEKE, H., VERHAERT, G. & WAELKENS, M. (2005) Identification of a historical morphogenic Earthquake through Trenching at ancient Sagalassos (SW Turkey), *Journal of Geodynamics* 40, 279-293.

SINTUBIN *ET AL.* 2003

SINTUBIN, M., MUCHEZ, P., SIMILOX-TOHON, D., VERHAERT, G., PAULISSEN, E. & WAELKENS, M. (2003) Seismic Catastrophes at the ancient City of Sagalassos (SW Turkey) and their Implications for Seismotectonics in the Burdur–Isparta Area, *Geological Journal* 38 (3-4), 359–374.

SINTUBIN & STEWART 2008

SINTUBIN, M. & STEWART, S. (2008) A logical Methodology for Archaeoseismology: A Proof of Concept at the archaeological Site of Sagalassos, Southwest Turkey, *Bulletin of the Seismological Society of America* 98 (5), 2209–2230.

SIX 2004

SIX, S. (2004) *Holocene geomorphological Evolution of the Territory of Sagalassos. Contribution to the palaeo-environmental Reconstruction of Southwest Turke*y (unpublished PhD dissertation, University of Leuven).

SLANE 2012

SLANE, K.W. (2012) Remaining Roman in Death at an eastern Colony, *Journal of Roman Archaeology* 25, 441-455.

SLATER (ED.) 1991

SLATER, W.J. (ed.) (1991) *Dining in a classical Context*, Ann Arbour.

SMITH 1992

SMITH, R.W. (1992) Secondary Use of the *Necropoleis* of the Decapolis, *ARAM Periodical* 4, 215-28.

SMITH 2003

SMITH, D.E. (2003) *From Symposium to Eucharist: the Banquet in the Early Christian World*, Minneapolis.

SMITH 2004

SMITH, M.E. (2004) The Archaeology of ancient State Economies, *Annual Review of Anthropology* 33, 73-102.

SMITH 2008

SMITH, M.L. (2008) Urban empty Spaces. Contentious Places for Consensus-building, *Archaeological Dialogues* 15 (2), 216–231.

SMITH 2009

SMITH, M.E. (2009) Ancient Cities, in: **HUTCHISON, R.** (ed.) *Encyclopedia of Urban Studies*, New York, 24-28.

SOBRA & RONCHETTA 2013

SOBRA, G. & RONCHETTA, D. (2013) Temple-Tombs as a Reflection of Cult Monuments in Asia Minor. The Case Study of Hierapolis (Phrygia) (*13th International Colloquium on Roman Provincial Art*, 27 May – 3 June 2013, Bucharest) unpublished presentation.

SOKOLICEK 2010

SOKOLICEK, A. (2010) Grenzen und Mauern in der Griechischen Stadt: Überlegungen zu Diateichisma, *Temenos* und Stadtmauern, in: **LORENTZEN, J., PIRSON, F., SCHNEIDER, P.I. & WULF-RHEIDT, U.** (eds.) *Aktuelle Forschungen zur Konstruktion, Funktion und Semantik antiker Stadtbefestigungen* (*BYZAS* 10) 219-238.

SØRENSEN & REBAY-SALISBURY (EDS.) 2012

SØRENSEN, M.L.S. & REBAY-SALISBURY, K. (eds.) (2012) *Embodied Knowledge: historical Perspectives on Technology and Belief*, Oxford.

SORICELLI 2007

SORICELLI, G. (2007) *Intramurani / extramurani*, in: **LO CASCIO, E. & MEROLA, G.D.** (eds.) *Forme dit aggregazione nel mondo romano*, Bari, 59-69.

ŠOSTARIC *ET AL.* 2006

ŠOŠTARIĆ, R. DIZDAR, M., KUŠAN, D., HRŠAK, V. & MAREKOVIĆ, S. (2006) Comparative Analysis of Plant Finds from Early Roman Graves in Ilok (*Cuccium*) and Šćitarjevo (*Andautonia*), Croatia – A Contribution to Understanding Burial Rites in Southern Pannonia*, Collegium Antropologicum* 30, 429-436.

SPENCER 2006

SPENCER, D. (2006) Horace's Garden Thoughts: rural Retreats and the urban Imagination, in: **ROSEN, R. & SLUITER, I.** (eds.) *City, Countryside and the spatial Organisation of Value in Classical Antiquity*, Leiden, 239-274.

SPERDUTI 1997

SPERDUTI, A. (1997) Life Conditions of a Roman Imperial Age Population: occupational Stress Markers and working Activities in Lucus Feroniae (Rome, 1st-2nd cent. AD), *Human Evolution* 12 (4), 253-267.

SPIESER 1986

SPIESER, J.M. (2001) *Urban and religious Spaces in Late Antiquity and Early Byzantium*, Ashgate.

STEEGEN *ET AL.* 2000

STEEGEN, A., CAUWENBERGHS, K., GOVERS, G., WAELKENS, M., OWENS, E.J. & DESMET, P. (2000) The Water Supply to Sagalassos, in: **Waelkens, M. & Loots, L.** (eds.) *Sagalassos V. Report on the Survey and Excavation Campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven, 635-649.

STESKAL 2011

STESKAL, M. (2011) Wandering Cemeteries. Roman and Late Roman Burials in the Capital of the Province of Asia, in: **HENRY, O.** (ed.) (2011) *Le mort dans la ville. Pratiques, contextes et impacts des inhumations* intra-muros *en Anatolie, du début de l'Âge du Bronze à l'époque romaine* (*Actes des 2e Rencontres d'Archéologie de l'IFÉA*, 14-15 November, Istanbul) Istanbul, 243-258.

STEVENS 2012

STEVENS, S.T. (2012) Commemorating the Dead in the communal Cemeteries of Carthage (Chapter 3), in: **BRINK, L. & GREEN, D.** (eds.) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York, 79-106.

STIRLING *ET AL.* (EDS.) 2001

STIRLING, L.M., MATTINGLY, D.J. & BEN LAZREG, N. (eds.) (2001) *Leptiminus (Lamta) Report No. 2. The East Baths, Cemeteries, Kilns, Venus Mosaic, Site Museum, and other Studies* (*Journal of Roman Archaeology* Supplementary Series 41) Portsmouth.

STOEGER 2009

STOEGER, H. (2009) Clubs and Lounges at Roman Ostia. The spatial Organisation of a Boomtown Phenomenon (Space Syntax applied to the Study of second Century AD 'Guild Buildings' at a Roman Port Town), in: **KOCH, D., MARCUS, L. & STEEN, J.** (eds.) *Proceedings of the 7th International Space Syntax Symposium* (8-11 June, Stockholm) Stockholm, 108.1-108.12.

STRUBBE 1991

STRUBBE, J.H.M. (1991) Cursed be he that moves my Bones, in: **FARAONE, C. & OBBINK, D.** (eds.) *Magika Hiera: ancient Greek Magic and Religion*, New York, 33-59.

STRYDONCK *ET AL.* 2013

STRYDONCK, M. VAN, DECQ, L., VAN DEN BRANDE, T., BOUDIN, M., RAMIS, D., BORMS, H. & DE MULDER, G. (2013) The Protohistoric 'Quicklime Burials' from the Balearic Islands: Cremation or Inhumation, *International Journal of Osteoarchaeology*, DOI: 10.1002/oa.2307.

STUPPERICH & SERDAROĞLU (EDS.) 1996

STUPPERICH, R. & SERDAROĞLU, Ü. (eds.) (1996) *Ausgrabungen in Assos 1991* (*Asia Minor Studien* 21) Bonn.

SÜVEGH 2014

SÜVEGH, E. (2014) Hellenistic grotesque Terracotta Figurines. Problems of iconographical Interpretation, in: **BARTUS, D.** (ed.) *Dissertationes Archaeologicae ex Instituto Archaeologico Universitatis de Rolando Eötvös nominatae* 3.2, Budapest, 143-156.

SWOBODA *ET AL.* (EDS.) 1935

SWOBODA, H., KEIL, J. & KNOLL, F. (eds.) (1935) *Denkmäler aus Lykaonien, Pamphylien, und Isaurien. Ergebnisse einer im Auftrage der Gesellschaft von Julius Jüthner, Fritz Knoll, Karl Patsch und Heinrich Swoboda durchgeführten Forschungsreise,* Brünn.

- T -

TALLOEN 2001

TALLOEN, P. (2001) The Egyptian Connection. The Cult of Nilotic Dieties at Sagalassos, *Ancient Society* 31, 289-327.

TALLOEN 2003

TALLOEN, P. (2003) *Cult in Pisidia. Religious Practice in Southwestern Asia Minor from the Hellenistic to the Early Byzantine Period* (unpublished PhD dissertation, University of Leuven).

TALLOEN 2012

TALLOEN, P. (2012) Doğu Dış Mahalle Kazıları: PQ 4, in: **WAELKENS, M.** (ed.) *2012 Yılı Sagalassos kazı ve restorasyon çalışmaları*, 47-78 (unpublished internal report).

TALLOEN 2015

TALLOEN, P. (2015) *Cult in Pisidia. Religious Practice in Southwestern Asia Minor from Alexander the Great to the Rise of Christianity* (*Studies in Eastern Mediterranean Archaeology* 10) Turnhout.

TALLOEN & WAELKENS 2004

TALLOEN, P. & WAELKENS, M. (2004) Apollo and the Emperors, I. The material Evidence for the Imperial Cult at Sagalassos, *Ancient Society* 34, 171-216.

TALLOEN & POBLOME 2013

TALLOEN, P. & POBLOME, J. (2013) Alan PQ 4, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 249-250-251.

TALLOEN & BEAUJEAN 2014A

TALLOEN, P. & BEAUJEAN, B. (2014a) Excavations at site PQ2, in: **WAELKENS, M. *ET AL.*** (eds.) *The 2013 Excavations and Restoration Activities at Sagalassos* (*XXXVI. Kazı Sonuçları Toplantısı*, Vol. 2, 2-6 June 2014, Gaziantep) Ankara, 47-48.

TALLOEN & BEAUJEAN 2014B

TALLOEN, P. & BEAUJEAN, B. (2014b) Excavations at site PQ5, in: **WAELKENS, M. *ET AL.*** (eds.) *The 2013 Excavations and Restoration Activities at Sagalassos* (*XXXVI. Kazı Sonuçları Toplantısı*, Vol. 2, 2-6 June 2014, Gaziantep) Ankara, 48-49.

TARLOW & NILSSON STUTZ (EDS.) 2013

TARLOW, S. & NILSSON STUTZ, L. (eds.) (2013) *The Oxford Handbook of the Archaeology of Death and Burial*, Oxford.

THEODORE PEÑA 2007

THEODORE PEÑA, J. (2007) *Roman Pottery in the archaeological Record*, Cambridge.

THORLEY 2005

THORLEY, J. (2005) *Athenian Democracy*, London.

TILLEY 1994

TILLEY, C. (1994) *A Phenomenology of Landscape: Places, Paths and Monuments*, Oxford-Providence.

TÖLLE-KASTENBEIN 1990

TÖLLE-KASTENBEIN, R. (1990) *Antike Wasserkultur*, München.

TONER 2009

TONER, J. (2009) *Popular Culture in Ancient Rome*, Cambridge.

TOYNBEE 1971

TOYNBEE, J.M.C. (1971) *Death and Burial in the Roman World*, London.

TRAN 2012

TRAN, N. (2012) Les entrepôts dans le métier de négociant romain: associations professionnelles et réseaux commerciaux (unpublished presentation at *Entrepôts et circuits de distribution en Méditerranée*, 22-24 October 2012, Athens).

TREACY & DENEVAN 1994

TREACY, J. M. & DENEVAN, W.M. (1994) The Creation of cultivable Land through Terracing, in: **MILLER, N.F. & GLEASON, K.L.** (eds.) *The Archaeology of Garden and Field*, Philadelphia, 91-110.

TREGGIARI 1976

TREGGIARI, S. (1976) Jobs for Women, *American Journal of Ancient History* 1/2, 76-104.

TREGGIARI 1980

TREGGIARI, S.M. (1980) Urban Labour in Rome. *Mercennarii* and *Tabernarii*, in: **GARNSEY, P.** (ed.) *Non-Slave Labour in the Greco-Roman World* (*Proceedings of the Cambridge Philological Society* supp. 6) Cambridge, 48-64.

TREZINY 2012

TREZINY, H. (2012) L'espace périurbain dans les villes grecques d'Occident, in: **CARME BELARTE, M. & PLANA MALLART, R.** (eds.) *Le paysage périurbain en Méditerranée occidentale pendant la Protohistoire et l'Antiquité* (*Actes du Colloque international de l'Institut Catalan d'Archéologie Classique*, 6-8 May 2009, Tarragona) Tarragona, 33-46.

TSALIKI 2008

TSALIKI, A. (2008) Unusual Burials and Necrophobia: an Insight into the Burial Archaeology of Fear, in: **MURPHY, R.** (ed.) *Deviant Burial in the Archaeological Record* (*Studies in funerary Archaeology* 2) Oxford, 1-16.

TSIOLIS 1997

TSIOLIS, V.G. (1997) Las restricciones de la producción tegularia en la Lex Vrsonensis, in: **MANGAS, J. & GARCIA GARRIDO** (eds.) *La Lex Vrsonensis*, Salamanca, 119-136.

TZAPHERES *ET AL.* (EDS.) 2009

TZAPHERES, V., HARTAL, M. & ISRAELI, S. (eds.) (2009) *Paneas 4. The Aqueduct and the northern Suburbs* (*Israel Antiquities Authority Reports* 40) Jerusalem.

- U -

ULENERS *ET AL.* 2012

ULENERS, H., UZUNOĞLU, H. & SOMERS, J. (2012) Kütüphanenin doğusu kazıları, in: **WAELKENS, M.** (ed.) *2012 yılı Sagalassos kazı ve restorasyon çalışmaları* (unpublished internal report), 99-112.

ULENERS *ET AL.* 2013

ULENERS, H., UZUNOĞLU, H. & VAN DEN AKKER, J. (2013) Kütüphanenin doğusu kazıları, in: **WAELKENS, M.** (ed.) *2013 yılı Sagalassos kazı ve restorasyon çalışmaları* (unpublished internal report), 45-59.

UYTTERHOEVEN *ET AL.* 2010

UYTTERHOEVEN, I., MARTENS, F., MUŠIČ , B. & WAELKENS, M. (2010) Urban Housing in the Pisidian Town of Sagalassos (Burdur, Turkey), in: **LADSTÄTTER, S. & SCHEIBELREITER, V.** (eds.) *Städtisches Wohnen im östlichen Mittelmeerraum 4. Jh. v. Chr.–1. Jh. n. Chr.* (*Akten des Internationalen Kolloquiums,* 24-27 October 2007, Vienna) (*Archäologische Forschungen* 18) Vienna, 291-309.

UYTTERHOEVEN *ET AL.* 2013

UYTTERHOEVEN, I., KÖKTE, H., CORREMANS, M., POBLOME, J. & WAELKENS, M. (2013) Late Antique Private Luxury. The Mosaic Floors of the 'Urban Mansion' of Sagalassos (Ağlasun, Burdur – Turkey), in: **BECK-BRANDT, B.** (ed.) *Jahreshefte des Österreichischen Archaeologischen Instituts in Wien* 82, Vienna, 373-407.

- V -

VAN ANDRINGA (ED.) 2008

VAN ANDRINGA, W. (ed.) (2008) *Sacrifices, marché de la viande et pratiques alimentaires dans les cités du monde romain. Meat: Sacrifice, Commerce and Food Preparations in the Roman Empire* (*Food & History* 5.1) Turnhout.

VANDEPUT 1993

VANDEPUT, L. (1993) Honour where Honour is due. Regional Features on honorific Monuments of Pisidia?, *Anatolian Studies* 43, 193-202.

VANDEPUT 1997

VANDEPUT, L. (1997) *The architectural Decoration in Roman Asia Minor. Sagalassos: a Case Study* (*Studies in Eastern Mediterranean Archaeology* 1) Turnhout.

VAN DER ENDEN *ET AL.* 2012

VAN DER ENDEN, M., POBLOME, J. & BES, P. (2012) *Late Hellenistic Pottery from Sagalassos: the Temple of Apollo Klarios Deposit* (unpublished poster presentation).

VAN DER ENDEN *ET AL.* 2014

VAN DER ENDEN, M., POBLOME, J. & BES, P. (2014) From Hellenistic to Roman Imperial in Pisidian Tableware: the Genesis of Sagalassos Red Slip Ware, in: **MEYZA, H. & DOMŻALSKI, K.** (eds.) *Late Hellenistic to Mediaeval fine Wares of the Aegean Coast of Anatolia: their Production, Imitation and Use* (*Travaux de l'Institut des Cultures Méditerranéennes et Orientales de l'Académie Polonaise des Sciences* 1), Warsaw, 81-94.

VAN HAELST *ET AL.* 2012

VAN HAELST, S., ÖZKILIÇ, M. & CLAESSENS, L. (2012) Doğu Dış Mahalle Kazıları: PQ 2, in: **WAELKENS, M.** (ed.) *2012 Yılı Sagalassos kazı ve restorasyon çalışmaları* (unpublished internal report), 22-43.

VAN HAELST *ET AL.* 2013

VAN HAELST, S., CLAEYS, J. & POBLOME, J. (2013) Alan PQ 2, in: **WAELKENS, M. *ET AL.*** (eds.) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 249-250.

VANHAVERBEKE & WAELKENS 2003

VANHAVERBEKE, H. & WAELKENS, M. (2003) *The* Chora *of Sagalassos. The Evolution of the Settlement Pattern from prehistoric until recent Times* (*Studies in Eastern Mediterranean Archaeology* 5) Leuven.

VANHAVERBEKE *ET AL.* 2004

VANHAVERBEKE, H. MARTENS, F. WAELKENS, M. & POBLOME, J. (2004) Late Antiquity in the territory of Sagalassos (Pisidia, SW Turkey), in: **BOWDEN, W. LAVAN, L. & MACHADO, C.** (eds.) *Recent Research on the Late Antique Countryside* (*Late Antique Archaeology* 2) Aldershot, 247- 279.

VANHAVERBEKE *ET AL.* 2007

VANHAVERBEKE, H., MARTENS, F. & WAELKENS, M. (2007) Another view on Late Antiquity: Sagalassos (SW Anatolia); its *Suburbium* and its Countryside in Late Antiquity, in: **POULTER, A.G.** (ed.) *The Transition to late Antiquity on the Danube and beyond*, Oxford, 611-648.

VANHAVERBEKE *ET AL.* (EDS.) 2008

VANHAVERBEKE, H., POBLOME, J., VERMEULEN, F., WAELKENS, M. & BRULET, R. (eds.) (2008) *Thinking about Space: the Potential of Surface Survey and contextual Analysis in the Definition of Space in Roman Times*, Turnhout.

VANHAVERBEKE *ET AL.* 2010

VANHAVERBEKE, H., WAELKENS, M., VYNCKE, K., DE LAET, V., AYDAL, S., MUŠIČ, B., DE CUPERE, B., POBLOME, J., BRAEKMANS, D., DEGRYSE, P., MARINOVA, E., VERSTRAETEN, G., VAN NEER, W., ŠLAPŠAK, B., MEDARIČ, I., EKINCI, H.A. & ERBAY, M.O. (2010) 'Pisidian' culture? The Classical-Hellenistic site at Düzen Tepe near Sagalassus (southwest Turkey), *Anatolian Studies* 60, 105-128.

VANHAVERBEKE *ET AL.* 2011

VANHAVERBEKE, H., DEGRYSE, P., DE CUPERE, B., VAN NEER, W., WAELKENS, M. & MUCHEZ, P. (2011) Urban-rural Integration at ancient Sagalassos (SW Turkey). Archaeological, archaeozoological and geochemical Evidence, *Archaeofauna* 20, 73-83.

VANHAVERBEKE *ET AL.* IN PREP.

VANHAVERBEKE, H., MARTENS, F., WAELKENS, M., POBLOME, J., DEGEEST, R., VANDEPUT, L. & KÖSE, V. (in prep.) The intensive archaeological Survey near Sagalassos. Preliminary Results of the first three Seasons, s.l.

VAN MENSCH 1974

VAN MENSCH, P.J.A. (1974) *A Roman Soup-Kitchen at Zwammerdam?*, Amersfoort.

VAN NEER & DE CUPERE 1993

VAN NEER, W. & DE CUPERE, B. (1993) First archaeozoological Results from the Hellenistic-Roman Site of Sagalassos, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general Report on the Survey (1986-1989) and Excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 225-235.

VAN NIJF 1997

VAN NIJF, O.M. (1997) *The civic World of professional Associations in the Roman East*, Amsterdam.

VAN OSSEL & PIETERS 1998

VAN OSSEL, P. & PIETERS, M. (1998) Archéologie et environnement: recherches sur les suburbana de Paris durant l'époque romaine, in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 181-200.

VANPOUCKE 2009

VANPOUCKE, S., MAINLAND, I., DE CUPERE, B. & WAELKENS, M. (2009) Dental Microwear Study of Pigs from the classical Site of Sagalassos (SW Turkey) as an Aid for the Reconstruction of Husbandry Practices in ancient Times, *Environmental Archaeology* 14 (2), 137-154.

VAN STRYDONCK *ET AL.* 2013

VAN STRYDONCK, M., DECQ, L., VAN DEN BRANDE, T., BOUDIN, M., RAMIS, D., BORMS, H. & DE MULDER, G. (2013) The Protohistoric 'Quicklime Burials' from the Balearic Islands: Cremation or Inhumation, *International Journal of Osteoarchaeology*, DOI: 10.1002/oa.2307.

VAN TILBURG 2008

VAN TILBURG, C. (2008) Gates, Suburbs and Traffic in the Roman Empire, *Bulletin Antieke Beschaving Babesch* 83, 133-147.

VAQUERIZO 2007

VAQUERIZO, D. (2007) *Crematio et humatio* in Hispania: *Cordubensium mos*, in: **FABER, A., FASOLD, P., STRUCK, M. & WITTEYER, M.** (eds.) *Körpergräber des 1. – 3. Jahrhunderts in der römischen Welt* (*Proceedings of the international colloquium*, 19-20 November 2004, Frankfurt am Main) Frankfurt am Main, 271-304.

VAQUERIZO (ED.) 2010

VAQUERIZO, D. (ed.) (2010) *Las áreas suburbanas en la Ciudad Histór*ic. *Topografía, usos, función* (*Monografías de arqueología cordobesa* 18), Cordoba.

VAQUERIZO & MURILLO (EDS.) 2010

VAQUERIZO, D. & MURILLO, J.F. (eds.) (2010) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19), Cordoba.

VAQUERIZO & MURILLO ACCEPTED

VAQUERIZO, D. & MURILLO, J.F. (accepted) The Suburbs of *Corduba*, in: **CLAEYS, J., TAELMAN, D., VERMEULEN, F. & POBLOME, J.** (eds.) *The Space between: current Investigations into Roman* Suburbia, s.l.

VAQUERIZO & NOGUERA 1997

VAQUERIZO, D. & NOGUERA, G.M. (1997) *La* villa *romana de El Ruedo (Almedinilla, Córdoba)*. *Decoración escultórica e interpretación*, Murcia.

VARGAS 2010

VARGAS, S. (2010) El vicus del *Suburbium* Occidental de *Colonia Patricia* visto a través de sus conjuntos cerámicos, in: **VAQUERIZO, D. & MURILLO, J.F.** (eds.) (2010) *El anfiteatro romano de Córdoba y su entorno urbano. Análisis arqueológico (ss. I-XIII d.C.)* (*Monografías de arqueología cordobesa* 19 Vol. 2), Cordoba, 450-465.

VEGA 1994

VEGA, P.A.F. (1994) Las áreas periurbanas de las ciudades altoImperiales romanas. Usos del suelo y zonas residenciales, *Hispania Antiqua* 18, 141-158.

VERBOVEN 2011

VERBOVEN, K. (2011) Professional *collegia*: Guilds or social clubs?, *Ancient Society* 41, 187-195.

VERMASEREN 1956-1960

VERMASEREN, M.J. (1956-1960) *Corpus Inscriptionum et Monumentorum Religionis Mithriaciae*, 2 Vol., Den Haag.

VERMEULEN *ET AL.* 2012

VERMEULEN, F., CORSI, C. & MEYER, C. (2012) The suburban Area and the Aqueducts, in: **CORSI, C. & VERMEULEN, F.** (eds.) *Ammaia I. A Romano-Lusitanian Townscape revealed* (*Archaeological Reports Ghent University* 8), Ghent, 157-165.

VERMOERE 2004

VERMOERE, M. (2004) *Holocene Vegetation History in the Territory of Sagalassos (Southwest Turkey): a palynological Approach* (*Studies in Eastern Mediterranean Archaeology* 6) Leuven.

VERMOERE *ET AL.* 2000

VERMOERE, M., SMETS, E., WAELKENS, M., VANHAVERBEKE, H., LIBRECHT, I., PAULISSEN, E. & VANHECKE, L. (2000) Late Holocene environmental Change and the Record of Human Impact at Gravgaz near Sagalassos, Southwest Turkey, *Journal of Archaeological Science* 27, 571–595.

VERMOERE *ET AL.* 2002

VERMOERE, M., BOTTEMA, S., VANHECKE, L., PAULISSEN, E., WAELKENS, M., SMETS, E. (2002) Palynological Evidence for late Holocene human Occupation recorded in two Wetlands in southwest Turkey, *The Holocene* 12 (5), 569–584.

VERMOERE *ET AL.* 2003

VERMOERE, M., SIX, S., POBLOME, J., DEGRYSE, P., PAULISSEN, E., WAELKENS, E. & SMETS, E. (2003) Pollen Sequences from the City of Sagalassos (Pisidia, Southwest Turkey), *Anatolian Studies* 53, 161-173.

VERSTRAETEN *ET AL.* 2000

VERSTRAETEN, G., PAULISSEN, E., LIBRECHT, I. & WAELKENS, M. (2000) Limestone platforms around Sagalassos resulting from giant mass movements, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the survey and excavation campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven, 783-798.

VIOLANTE 2000

VIOLANTE, A. (2000) Gli spazi suburbani nelle fonti storiche della campagna di Sentino, in: **ANTICO GALLINA, M.** (ed.) *Dal suburbium al faubourg: evoluzione di una realtà urbana*, Milan, 57-80.

VIONIS *ET AL.* 2009

VIONIS, A.K., POBLOME, J. & WAELKENS, M. (2009) The hidden Material Culture of the Dark Ages. Early medieval Ceramics at Sagalassos (Turkey): new Evidence (ca AD 650-800), *Anatolian Studies* 59, 147-165.

VLASSOPOULOS 2008

VLASSOPOULOS, K. (2008) *Unthinking the Greek* Polis*: Ancient Greek History beyond Eurocentrism*, Cambridge/New York.

VOLPE 2006

VOLPE, G. (2006) *Stibadium* e *convivium* in una *villa* tardoantica (Faragola – Ascoli Satriano), in: **SILVESTRINI, M., SPAGNUOLO VIGORITA, T. & VOLPE, G.** (eds.) *Studi in onore di Francesco Grelle*, Bari, 319-349.

VOLPE 2010

VOLPE, R. (2010) Archaeological Investigations in the Torre Spaccata Valley (Rome): human Interaction with the recent Activity of the Albano Maar, in: Funiciello, R. & Giordano, G. (eds.) *The Colli Albani Volcano. Special Publications of IAVCEI* 3, London, 355–382.

VOLPE 2012

VOLPE, R. (2012) Republican *Villae* in the *Suburbium* of Rome, in: **BECKER, J.A. & TERRENATO, N.** (eds.) *Roman republican* Villae*: Architecture, Context and Ideology* (*Papers and Monographs of the American Academy in Rome* 32) 94-110.

VON AULOCK 1977

VON AULOCK, H. (1977) *Münzen und Städte Pisidiens I* (*Istanbuler Mitteilungen* 19) Tübingen.

VON AULOCK 1979

VON AULOCK, H. (1979) *Münzen und Städte Pisidiens II* (*Istanbuler Mitteilungen* 22) Tübingen.

VON HESBERG 1992

VON HESBERG, H. (1992) *Römische Grabbauten*, Darmstadt.

VON HESBERG & ZANKER 1987

VON HESBERG, H. & ZANKER, P. (1987) Einleitung, in: **VON HESBERG, H. & ZANKER, P.** (eds.) *Römische Gräberstraßen. Selbstdarstellung - Status - Standard*, Munich, 9-20.

VON HESBERG & ZANKER 1987 (ED.)

VON HESBERG, H. & ZANKER, P. (eds.) (1987) *Römische Gräberstraßen. Selbstdarstellung - Status - Standard*, Munich.

VUORINEN 2007

VUORINEN, H.S. (2007) Water and Health in Antiquity: Europe's Legacy, in: **JUUTI, P.S., KATKO, T.S. & VUORINEN, H.S.** (eds.) *Environmental History of Water*. *Global views on Community Water Supply and Sanitation*, London, 45-68.

- W -

WACHTER 2001

WACHTER, R. (2001) The Corinthian Pinakes, in: **WACHTER, R.** (ed.) *Non-Attic Greek Vase Inscriptions*, Oxford, 119-155.

WAELKENS 1990

WAELKENS, M. (1990) Technique de carrière, prefaçonnage et ateliers dans les civilisations classiques (mondes grecs et romain), in : **WAELKENS, M.** (ed.) *Pierre Eternelle. Du Nil au Rhin, carrières et préfabrication*, Brussels, 53-72.

WAELKENS 1992

WAELKENS, M. (1992) Die neuen Forschungen (1985-1989) und die Belgischen Ausgrabungen (1990-1991) in Sagalassos, in: **SCHWERTHEIM, E.** (ed.) *Forschungen in Pisidien* (*Asia Minor Studien* 6), 43-60.

WAELKENS 1993

WAELKENS, M. (1993) Sagalassos. History and archaeology, in: **WAELKENS, M.** (ed.) *Sagalassos I. First general report on the survey (1986-1989) and excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven, 37-82 .

WAELKENS 2000A

WAELKENS, M. (2000a) The 1998-1999 Survey and archaeometrical Research at Sagalassos (*XVI. Arkeometri Sonuçları Toplantısı*, 22-26 May 2000, Izmir) Ankara, 87-88.

WAELKENS 2000B

WAELKENS, M. (2000b) Sagalassos and Pisidia during the Late Bronze Age, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the survey and excavation campaigns of 1996 and 1997* (*Acta Archaeological Lovaniensia Monographiae* 11) Leuven, 473-488.

WAELKENS 2002A

WAELKENS, M. (2002a) Romanization in the East. A Case Study: Sagalassos and Pisidia (SW Turkey), *Istanbuler Mitteilungen* 52, 311-368.

WAELKENS 2002B

WAELKENS, M. (2002b) The transformation of the public and sacred landscapes in early Imperial Sagalassos, in: **BERNS, C., VON HESBERG H., VANDEPUT, L. & WAELKENS, M.** (eds.) *Patris und Imperium. Kulturelle und politische Identität in den Städten der römischen Provinzen Kleinasiens in der frühen Kaiserzeit* (International Colloquium, November 1998, Köln) (*Bulletin Antieke Beschaving Babesch* 8) Leuven, 63-75.

WAELKENS 2004

WAELKENS, M. (2004) Ein Blick von der Ferne. Seleukiden und Attaliden in Pisidien, *Istanbuler Mitteilungen* 54, 435-471.

WAELKENS 2006

WAELKENS, M. (2006) Sagalassos 1990-2004. A balance of fifteen years of urban excavations and research, in: **RADT, W.** (ed.) *Stadtgrabungen und Stadtforschung im westlichen Kleinasien. Geplantes und Erreichtes: eine Bilanz.* (*International Symposium of the Deutschen Archäologischen Instituts Istanbul, 6-7 August 2004, Bergama*) (*Byzas* 3) Istanbul, 325-358.

WAELKENS 2008

WAELKENS, M. (2008) Report on the 2006 and 2007 Excavation and Restoration Activities at Düzen Tepe and at Sagalassos (*XXX. Kazı Sonuçları Toplantısı*, Vol. 3, 26-30 May, Ankara), Ankara, 427-456.

WAELKENS 2009

WAELKENS, M. (2009) *Sagalassos - Jaarboek 2008. Het kristallen jubileum van twintig jaar opgravingen*, Leuven.

WAELKENS 2011

WAELKENS, M. (2011) Sagalassos, "erste Stadt Pisidiens, Freund und Bundgenosse der Römer", *Antike Welt. Zeitschrift für Archäologie und Kulturgeschichte* 3, 62-71.

WAELKENS 2016

WAELKENS, M. (2016) Sagalassos, City of Water. Urban Water Supply from approximately 100 BC to approximately AD 200, in: **WIPLINGER, G.** (ed.) De Aquaeductu atque aqua urbium Lyciae Pamphyliae Pisidiae. *The Legacy of Sextus Julius Frontinus* (*Tagungsband des Internationalen Frontinus-Symposiums, 31 October – 9 November 2014, Antalya*), Leuven, 323-336.

WAELKENS (ED.) 1993

WAELKENS, M. (ed.) (1993) *Sagalassos I. First general Report on the Survey (1986-1989) and Excavations (1990-1991)* (*Acta Archaeologica Lovaniensia Monographiae* 5) Leuven.

WAELKENS (ED.) 2002

WAELKENS, M. (ed.) (2002) The 2000 Excavation and Restoration Season at Sagalassos (*XXIII. Kazı Sonuçları Toplantısı*, Vol. 1, 28 May – 1 June 2001, Ankara) Ankara, 11-28.

WAELKENS (ED.) 2003

WAELKENS, M. (ed.) (2003) Report on the 2002 Excavation and Restoration Campaign at Sagalassos (*XXV. Kazı Sonuçları Toplantısı*, Vol. 1, 26-31 May 2003, Ankara) Ankara, 215-230.

WAELKENS (ED.) 2004

WAELKENS, M. (ed.) (2004) Report on the 2003 Excavation and Restoration Campaign at Sagalassos (*XXVI. Kazı Sonuçları Toplantısı*, Vol. 1, 24-28 May 2004, Konya) Ankara, 421-438

WAELKENS (ED.) 2005

WAELKENS, M. (ed.) (2005) Report on the 2004 Excavation and Restoration Campaign at Sagalassos (*XXVII. Kazı Sonuçları Toplantısı*, Vol. 2, 30 May - 3 June 2005, Antalya) Ankara, 271-286.

WAELKENS (ED.) 2006

WAELKENS, M. (ed.) (2006) Report on the 2005 Excavation and Restoration Campaign at Sagalassos (*XXVIII. Kazı Sonuçları Toplantısı*, Vol. 2, 29 May - 2 June 2006, Çanakkale) Ankara, 317-340.

WAELKENS & LOOTS (EDS.) 2000

WAELKENS, M. & LOOTS, L. (eds.) (2000) *Sagalassos V. Report on the Survey and Excavation Campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven.

WAELKENS & POBLOME 2011

WAELKENS, M. & POBLOME, J. (2011) *Sagalassos. City of Dreams* (eds. **DE RYNCK, P. & TORUN, E**.), Ghent.

WAELKENS & POBLOME (EDS.) 1993

WAELKENS, M. & POBLOME, J. (eds.) (1993) *Sagalassos II. Report on the third Excavation Campaign of 1992* (*Acta Archaeologica Lovaniensia Monographiae* 6) Leuven.

WAELKENS & POBLOME (EDS.) 1995

WAELKENS, M. & POBLOME, J. (eds.) (1995) *Sagalassos III. Report on the fourth Excavation Campaign of 1993* (*Acta Archaeologica Lovaniensia Monographiae* 7) Leuven.

WAELKENS & POBLOME (EDS.) 1997

WAELKENS, M. & POBLOME, J. (eds.) (1997) *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995* (*Acta Archaeologica Lovaniensia Monographiae* 9) Leuven.

WAELKENS & THE SAGALASSOS TEAM 1997

WAELKENS, M. & THE SAGALASSOS TEAM (1997) Interdisciplinarity in Classical Archaeology. A Case Study: the Sagalassos Archaeological Research Project (southwest Turkey), in: **WAELKENS, M. & POBLOME, J.** (eds.) *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995* (Acta *Archaeologica Lovaniensia Monographiae* 9) Leuven, 225-252.

WAELKENS & THE SAGALASSOS TEAM 1999

WAELKENS, M. & THE SAGALASSOS TEAM (1999) Sagalassos und sein Territorium. Eine interdisziplinäre Methodologie zur historischen Geographie einer Kleinasiatischen Metropole, in: **BELKE, K., HILD, F., KODER, J. & SOUSTAL, P.** (eds.) *Byzanz als Raum. Zu Methoden und Inhalten der historischen Geographie des östlichen Mittelmeerraumes im Mittelalter* (Symposium, 11-13 December 1997, Vienna) (*Denkschriften / Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse* 283) (*Veröffentlichungen der Kommission für die Tabula Imperii Byzantini* 7) 261-287.

WAELKENS & THE SAGALASSOS TEAM 2010

WAELKENS, M. & THE SAGALASSOS TEAM (2010) *Sagalassos - Jaarboek 2009. De Late Oudheid (c. 200-450/455 n. Chr.). Het jaarverslag van de campagne van 2009*, Leuven.

WAELKENS & THE SAGALASSOS TEAM 2011

WAELKENS, M. & THE SAGALASSOS TEAM (2011) *Sagalassos - Jaarboek 2010. De vroeg- tot midden-Byzantijnse periode (450-1250 n. Chr.). Het jaarverslag van de campagne van 2010*, Leuven.

WAELKENS & THE SAGALASSOS TEAM 2012

WAELKENS, M. & THE SAGALASSOS TEAM (2012) *Sagalassos - Jaarboek 2011-2012. Twee jaren van succes. De onderzoeks- en opgravingscampagnes in 2011 en 2012*, Leuven.

WAELKENS *ET AL.* 1990A

WAELKENS, M., MITCHELL, S. & OWENS, E. (1990a) Sagalassos 1989, *Anatolian Studies* 40, 185-198.

WAELKENS *ET AL.* 1990B

WAELKENS, M., BAŞER, S., DEGEEST, R. & LODEWIJCKX, M. (1990b) Sagalassos 1989: the Rescue Excavation in the Potter's Quarter and the "Sagalassos Ware", in: *Acta Archaeologica Lovaniensia* 28-29, 75-98. (*XII. Kazı Sonuçları Toplantısı*, Vol. 2, 28 May − 1 June 1990, Ankara), Ankara, 119-154.

WAELKENS *ET AL.* 1990C

WAELKENS, M., MITCHELL, S. & OWENS, E. (1990c) Sagalassos 1989 (*VIII. Araştırma Sonuçları Toplantısı*, 28 May – 1 June 1990, Ankara) Ankara, 261-282.

WAELKENS *ET AL.* 1990D

WAELKENS, M., BAŞER, S., DEGEEST, R. & LODEWIJCKX, M. (1990d) Sagalassos 1989: the Rescue Excavation in the Potter's Quarter and the "Sagalassos Ware", *Acta Archaeologica Lovaniensia* 28-29, 75-98.

WAELKENS *ET AL.* 1991A

WAELKENS, M., HARMANKAYA, A. & VIAENE, W. (1991a) The excavations at Sagalassos 1990, *Anatolian Studies* 41, 197-214.

WAELKENS *ET AL.* 1991B

WAELKENS, M., HARMANKAYA, A. & VIAENE, W. (1991b) The excavations at Sagalassos 1990 (*XIII. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 1991, Çanakkale) Ankara, 283-308.

WAELKENS *ET AL.* 1992

WAELKENS, M., OWENS, E., HASENDONCKX, A. & ARIKAN, B. (1992) The excavations at Sagalassos 1991, *Anatolian Studies* 42, 79-98.

WAELKENS *ET AL.* 1998

WAELKENS, M., VANHAVERBEKE, H., PAULISSEN, E., VIAENE, W., DECKERS, J., VAN NEER, W., REYNIERS, J., DE CUPERE, B. & POBLOME, J. (1998) *The survey and archaeometrical research at Sagalassos 1996* (*XIII International Symposium on Archaeometry*, 26-30 May 1997, Ankara) 1–29.

WAELKENS *ET AL.* 1999

WAELKENS, M., VERMEERSCH, P.M., ÖZTÜRK, I. & EKINCI, H.A. (1999) The 1997 excavations campaign at Sagalassos and Dereköy (*XX. Kazı Sonuçları Toplantısı*, Vol. 2, 25-29 May 1998, Tarsus) Ankara, 283-310.

WAELKENS *ET AL.* 2000A

WAELKENS, M., VANDEPUT, L., BERNS, C., ARIKAN, B., POBLOME, J. & TORUN, E. (2000) The Northwest Heroon at Sagalassos, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the Survey and Excavation Campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) Leuven, 553-593.

WAELKENS *ET AL.* 2000B

WAELKENS, M., SINTUBIN, M., MUCHEZ, P. & PAULISSEN, E. (2000) Archaeological, geomorphological and geological Evidences for a major Earthquake at Sagalassos (SW Turkey) around the Middle of the seventh Century A.D., *Geological Society Special Publication* 171, 373-383.

WAELKENS *ET AL.* 2000C

WAELKENS, M., KÖKTEN ERSOY, H., SEVERSON, K., MARTENS, F. & SENER, S. (2000) The Sagalassos Neon Library Mosaic and its Conservation, in: **WAELKENS, M. & LOOTS, L.** (eds.) *Sagalassos V. Report on the Survey and Excavation Campaigns of 1996 and 1997* (*Acta Archaeologica Lovaniensia Monographiae* 11) 419-449.

WAELKENS *ET AL.* 2002

WAELKENS, M., MARTENS, F. & VANHAVERBEKE, H. (2002) The 2001 Survey Season at Sagalassos and in its Territory (*XX. Araştırma Sonuçları Toplantısı*, Vol. 1, 27-31 May 2000, Ankara) Ankara, 329-344.

WAELKENS *ET AL.* 2006

WAELKENS, M., VANHAVERBEKE, H., MARTENS, F., TALLOEN, P., POBLOME, J., KELLENS, N., PUTZEYS, T., DEGRYSE, P., VAN THUYNE, T. & VAN NEER, W. (2006) The Late Antique to Early Byzantine City in Southwest Anatolia. Sagalassos and its Territory: a Case Study, in: **KRAUSE, J.-U. & WITSCHEL, C.** (eds.) *Die Stadt in der Spätantike - Niedergang oder Wandel?*, Stuttgart, 199-255.

WAELKENS *ET AL.* (EDS.) 2002

WAELKENS, M., HERZ, N. & MOENS, L. (eds.) (2002) *Ancient Stones: Quarrying, Trade and Provenance. Interdisciplinary Studies on Stones and Stone Technology in Europe and Near East from the Prehistoric to the Early Christian Period* (*Acta Archaeologica Lovaniensia Monographiae* 4), Leuven.

WAELKENS *ET AL.* (EDS.) 2010

WAELKENS, M. *ET AL.* (eds.) (2010) Sagalassos 2008 ve 2009 kazı ve restorasyon sezonları (*XXXII. Kazı Sonuçları Toplantısı*, Vol. 3, 24-28 May 2010, Istanbul), Ankara, 263-281.

WAELKENS *ET AL.* (EDS.) 2011

WAELKENS, M. *ET AL.* (eds.) (2011) Sagalassos 2010 yılı kazı ve restorasyon çalışmaları (*XXXIII. Kazı Sonuçları Toplantısı*, Vol. 3, 23-28 May 2011, Malatya) Ankara, 239-266.

WAELKENS *ET AL.* (EDS.) 2012

WAELKENS, M. *ET AL.* (eds.) (2012) Sagalassos 2011 kazı ve restorasyon sezonu (*XXXIV. Kazı Sonuçları Toplantısı*, Vol. 3, 28 May – 1 June 2012, Çorum), Ankara, 139-158.

WAELKENS *ET AL.* (EDS.) 2013

WAELKENS, M. *ET AL.* (eds.) (2013) *Sagalassos'ta 2012 Kazı ve Restorasyon Çalışmaları* (*XXXV. Kazı Sonuçları Toplantısı*, Vol. 2, 27-31 May 2013, Muğla) Ankara, 242-260.

WALLACE-HADRILL 2012

WALLACE-HADRILL, A. (2012) Housing the Dead: the Tomb as House in Roman Italy (Chapter 2), in: **BRINK, L. & GREEN, D.** (eds.) *Commemorating the Dead. Texts and Artifacts in Context. Studies of Roman, Jewish, and Christian Burials*, Berlin - New York, 39-78.

WALTZING 1885-1900

WALTZING, J.P. (1885-1900) *Etude historique sur les corporations professionnelles chez les Romains: depuis les origines jusqu'à la chute de l'Empire d'Occident*, 5 Vol., Leuven.

WARD-PERKINS 1980

WARD-PERKINS, J.B. (1980) Nicomedia and the Marble Trade, *Papers of the British School at Rome* 48, 23-69.

WEEKES 2005

WEEKES, J. (2005) Reconstructing Syntheses in Romano-British Cremation, in: **BRUHN, J., CROXFORD, B. AND GRIGOROPOULOS, D.** (eds.) *TRAC 2004 (Proceedings of the fourteenth annual Theoretical Roman Archaeology Conference*, April 2004, Durham) Oxford, 16-26.

WHITE 1967

WHITE, K.D. (1967) *Agricultural Implements of the Roman World*, Cambridge.

WHITE *ET AL.* 1995

WHITE, D., DEVRIES, K., GILMAN ROMANO, D., BALD ROMANO, I. & STOLYARIK, Y. (1995) *The Ancient Greek World. The Rodney S. Young Gallery*, University of Penssylvania Museum of Archaeology and Anthropology.

WHITEHOUSE *ET AL.* 1982

WHITEHOUSE, D., BARKER, G., REECE, R. & REESE, D. (1982) The *Schola Praeconum* I: the Coins, Pottery, Lamps and Fauna, *Papers of the British School at Rome* 50, 53-101.

WHITEHOUSE *ET AL.* 1985

WHITEHOUSE, D., COSTANTINI, L., GUIDOBALDI, F., PASSI, S., PENSABENE, P., PRATT, S., REECE, R. & REESE, D. (1985) The *Schola Praeconum* II, *Papers of the British School at Rome* 53, 163-210.

WHITELAW 1991

WHITELAW, T.M. (1991) Chapter 21. The Ethnoarchaeology of recent rural Settlement and Land Use in North-west Keos, in: **CHERRY, J.F., DAVIS, J.L. & MANTZOURANI, E.** (eds.) *Landscape Archaeology as long-term History. Northern Keos in the Cycladic Islands, from earliest Settlement until modern Times*, Los Angeles, 403-454.

WHITELAW 1994

WHITELAW, T.M. (1994) An ethnoarchaeological Study of rural Land-Use in North-west Keos: Insights and Implications for the Study of past Aegean Landscapes, in: **DOUKELLIS, P.N. & MENDONI, L.G.** (eds.) *Structures rurales et sociétés antiques* (*Actes du colloque de Corfou*, 14-16 May 1992, Corfu) (*Centre de Recherches d'Histoire Ancienne* 126), Paris, 163-186.

WHITELAW 1998

WHITELAW, T.M. (1998) Colonisation and Competition in the *Polis* of Koressos: The Development of Settlement in North-west Keos from the Archaic to the Late Roman Periods, in: **MENDONI, L.G. & MAZARAKIS AINIAN, A.** (eds.) *Kea – Kynthos: History and Archaeology* (*Proceedings of an International Symposium*, 22-25 June 1994, Kea) (*Μελετηματα*-Meletemata 27), Athens-Paris, 227-257.

WHITTAKER 1990

WHITTAKER, C.R. (1990) The Consumer City revisited: the Vicus and the City, *Journal of Roman Archaeology* 3, 110-118.

WHITTAKER 1992

WHITTAKER, C.R. (1992) Le pauvre, in: **ANDREAU, J., CARRIÉ, J.-M. & GIARDINA, A.** (ed.) *L'Homme romain*, Paris, 335-370.

WIBLE 1998

WIBLÉ, F. (1998) Les faubourgs de la ville romaine de *Forum Claudii Vallensium* (Martigny VS), in: **BEDON, R.** (ed.) (1998b) Suburbia*: les Faubourgs en Gaule Romaine et dans les Régions Voisines (Caesarodunum 32)* Limoges, 329-348.

WILBURN 2012

WILBURN, A.T. (2012) Materia Magica. *The Archaeology of Magic in Roman Egypt, Cyprus and Spain*, Ann Arbor.

WILD 1981

WILD, R.A. (1981) *Water in the cultic Worship of Isis and Sarapis* (*Études préliminaires aux réligions orientales dans l'Empire Romain* 87) Leiden.

WILLET 2012

WILLET, R. (2012) *The socio-cultural Context of the Concept and Use of Tablewares in the Roman East (2nd c. BC - 7th c. AD)* (unpublished PhD dissertation, University of Leuven).

WILLET & POBLOME 2015

WILLET, R. & POBLOME, J. (2015) The Scale of Sagalassos Red Slip Ware Production - Reconstructions of local Need and Production Output of Roman Imperial Tableware, *Adalya* 18, 133-158.

WILSON 1999

WILSON, A.I. (1999) Deliveries *extra Urbem*. Aqueducts and the Countryside, *Journal of Roman Archaeology* 12, 314-331.

WILSON 2011

WILSON, A. (2011) City sizes and Urbanization in the Roman Empire, in: **BOWMAN, A.K. & WILSON, A.** (eds.) *Settlement, Urbanization and Population*, Oxford, 161-95.

WILSON & FLOHR (EDS.) FORTHCOMING

WILSON, A. & FLOHR, M. (eds.) (forthcoming) *Beyond Marginality: Craftsmen, Traders and the socioeconomic History of urban Communities in the Roman World*, Oxford.

WITCHER 1998

WITCHER, R.E. (1998) Roman Roads: phenomenological Perspectives on Roads in the Landscape, in: **FORCEY, C., HAWTHORNE, J. & WITCHER, R.** (eds.) *TRAC 97* (*Proceedings of the seventh annual Theoretical Roman Archaeology Conference*, April 1997, Nottingham) Oxford, 60-70.

WITCHER 2005

WITCHER, R.E. (2005) The extended Metropolis: *Urbs*, *Suburbium* and Population, *Journal of Roman Archaeology* 18, 120-138.

WOOD 2004

WOOD, J. (2004) The possible Use of Fire-cracked Stones in ceramic Production and recent Research on the 'Otzi' Grass Cloak, in: **SMYNTYNA, O.V**. (ed.) *The Use of living Space in Prehistory. Papers from a Session held at the European Association of Archaeologists Sixth Annual Meeting* (12-17 September 2000, Lisbon) (*BAR International Series* 1224) Oxford, Chapter 11.

WÖRLLE 1988

WÖRRLE, M. (1988) *Stadt und Fest im kaiserzeitlichen Kleinasien. Studien zu einer agonistischen Stiftung aus Oenoanda*, Munich.

- Y -

YEGÜL 1992

YEGÜL, F. (1992) *Baths and Bathing in Classical Antiquity*, New York.

YEGÜL 2010

YEGÜL, F. (2010) *Bathing in the Roman World*, Cambridge.

YEGÜL 2011

YEGÜL, F. (2011) Bathing Culture in Anatolia: a Thousand Points of Light, a Thousand Fingers of Warmth, in: **ERGIN, N.** (ed.) *Bathing Culture of Anatolian Civilizations: Architecture, History, and Imagination* (*Ancient Near Eastern Studies* 37) Leuven-Paris-Walpole, 8-48.

YILMAZ 2007

YILMAZ, N. (2007) *Necropoleis* and funerary Monuments in Pisidia during the Roman Period, *Adalya* 10, 155-204.

- Z -

ZANKER 2000

ZANKER, P. (2000) The City as Symbol. Rome and the Creation of an urban Image, in: **FENTRESS, E.** (ed.) *Romanisation and the City: Creation, Dynamics and Failures* (*Journal of Roman Archaeology* Supplement 38) Portsmouth, 25-41.

ZIEGERT 2002

ZIEGERT, H. (2002) "Loess" over Ledba: a preliminary Report of Investigations 1999-2002, *Hephaistos* 19/20, 83-96.

ZIMMERMANN 2002

ZIMMERMANN, C. (2002) *Handwerkervereine im griechischen Osten des Imperium Romanum*, Mainz.

ZUIDERHOEK 2009

ZUIDERHOEK, A. (2009) *The Politics of Munificence in the Roman Empire. Citizens, Elites and Benefactors in Asia Minor*, Cambridge.

ZUIDERHOEK 2013

ZUIDERHOEK, A. (2013) Workers of the Ancient World: analyzing Labour in classical Antiquity, *Workers of the World* 1 (3) (Special Issue *Global Labour History*), 32-48.

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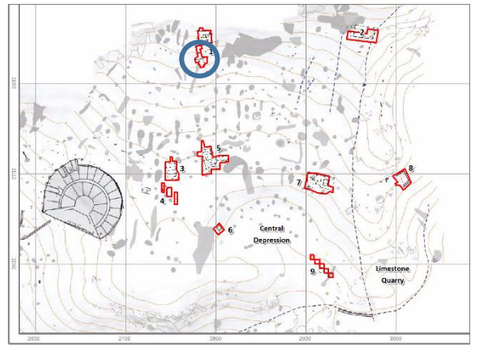
Attachment 1

Site F southern trench (excavated in 1990-1991 and 2011).



Legenda:

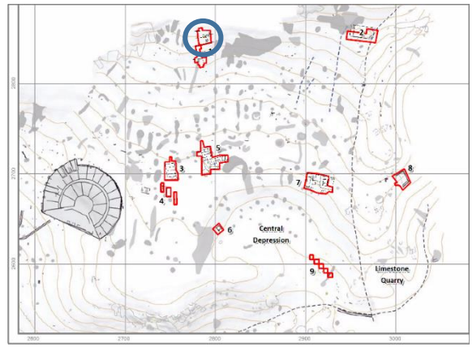
1) 3rd century AD pottery dump
2) find locations Classical pottery sherds
3) terrace wall
4) find location Hellenistic ceramic urns
5) early Roman Imperial additional wall
6) perpendicular 'rib walls' to terrace wall
7) traces of kiln
8) patches of clay

Drawing ©Sagalassos Project.

Aerial picture ©Sagalassos Project

Attachment 2

Site F northern trench (excavated in 1990 and 2012).



Legenda:

1) terrace walls
2) perpendicular ‘rib wall’ to terrace wall
3) ossuary? funerary niche?
4) buried remains of feasting
5) primary cremation burial?
6) vaulted tomb
7) Hellenistic ashlar monument
8) pit inhumations
9) individual tombs
10) primary cremation burial
11) cremation urn
12) sarcophagus fragments

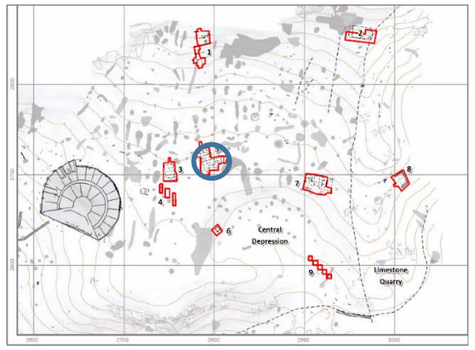
Drawing ©Sagalassos Project.

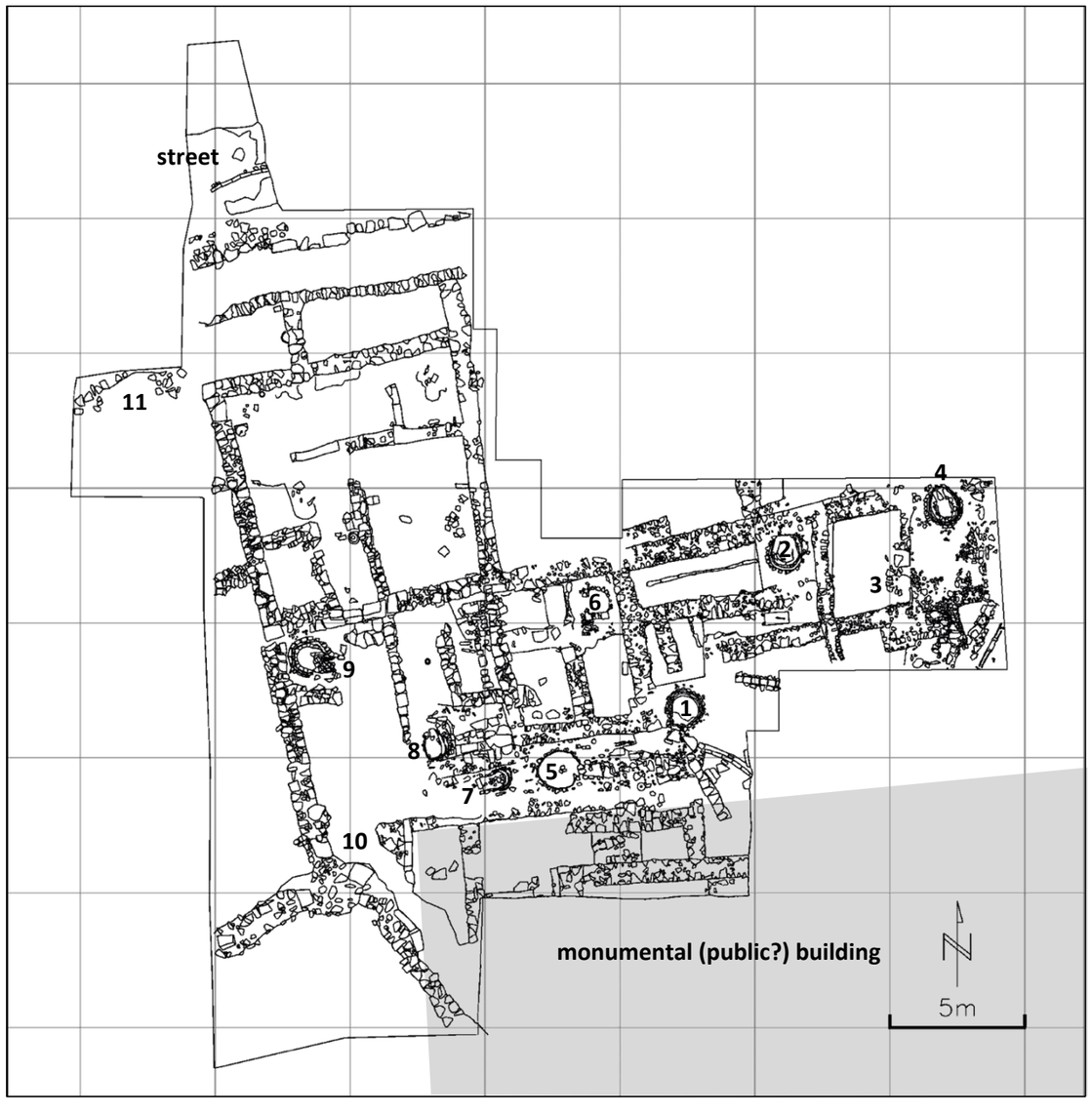
Aerial picture ©Sagalassos Project

Attachment 3

Site PQ coroplast workshops (excavated in 2003-2004 and 2009-2011).

Legenda: 1-11) Location of the kilns



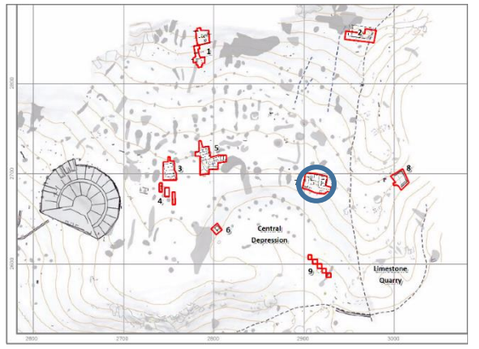


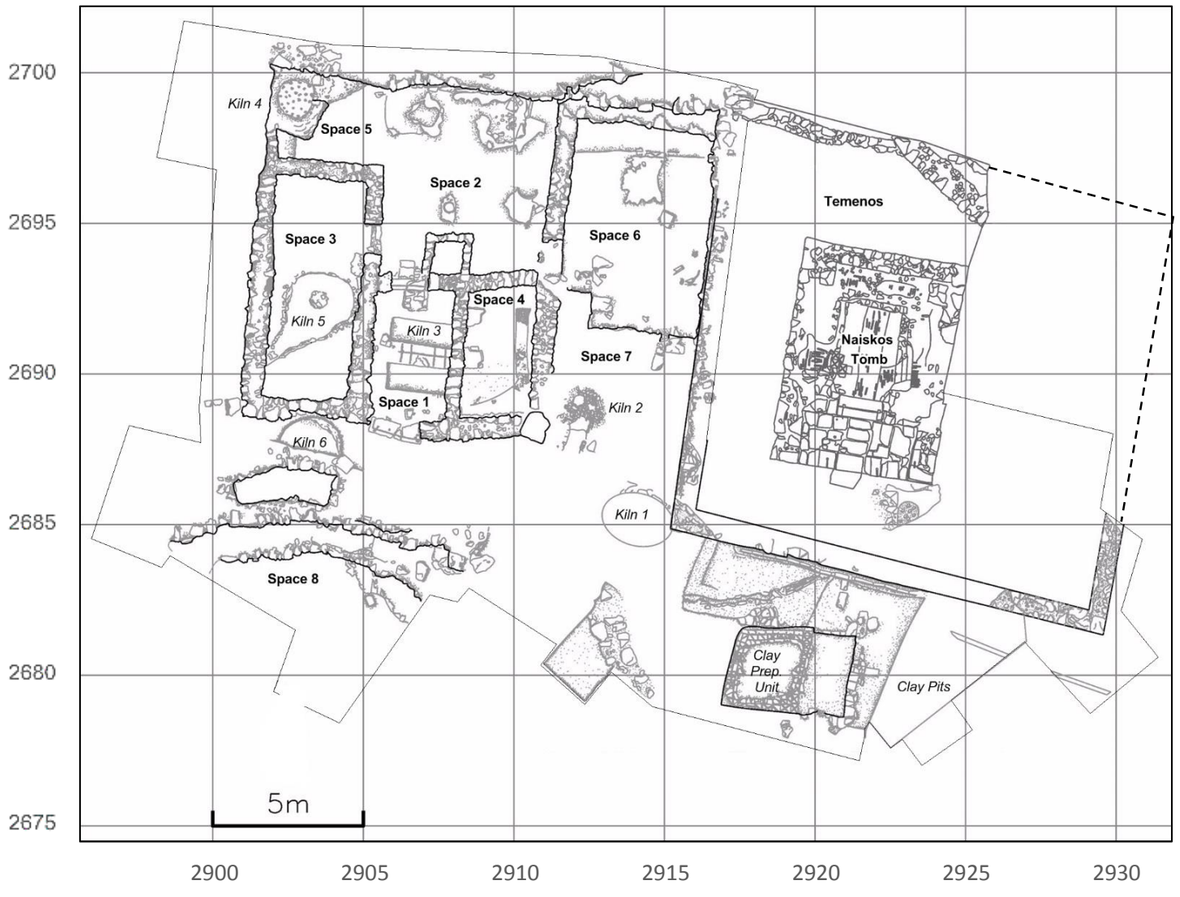
Drawing ©Sagalassos Project.

Aerial picture ©Sagalassos Project

Attachment 4

Site PQ east slope workshops (excavated in 1999-2001 and 2012-2013).





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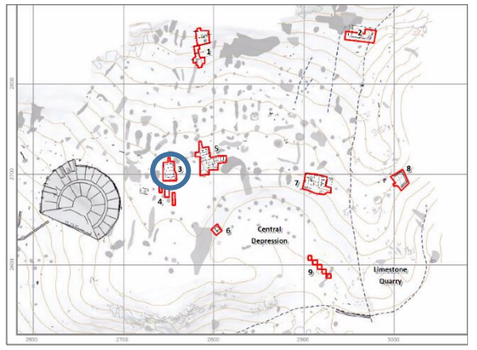
Aerial picture ©Sagalassos Project

Attachment 5

Site PQ 2 schola and collegia building (excavated in 2011-2014).

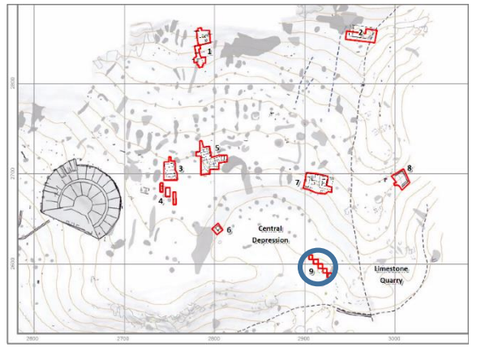


Drawing © Sagalassos Project.

Aerial picture © Sagalassos Project.

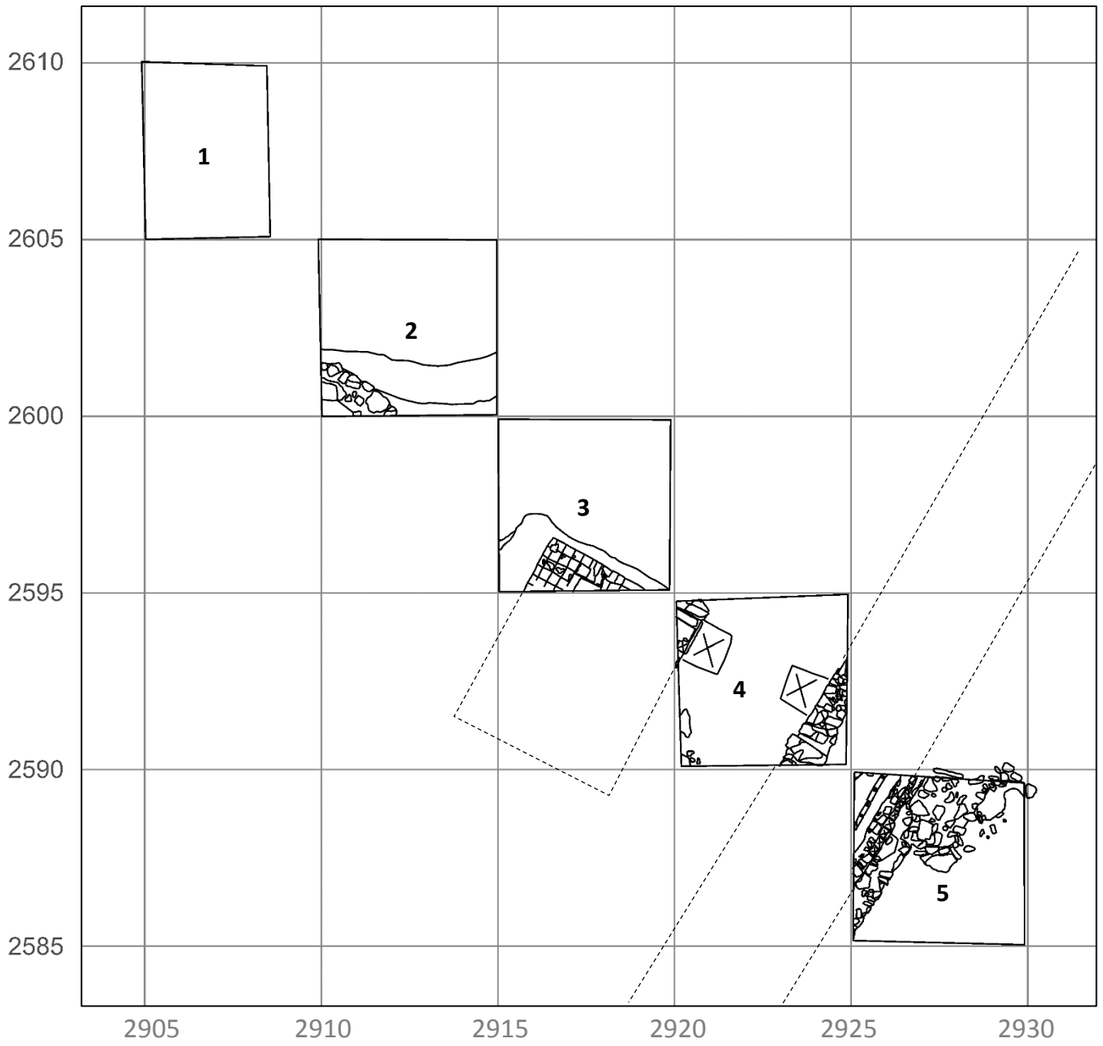
Attachment 6

Site PQ 3 soundings Central Depression (excavated in 2012).



Legenda:

1) test sounding 1
2) test sounding 2 (with clay quarrying)
3) test sounding 3 (with burial monument)
4) test sounding 4 (with burial monument and street/aqueduct)
5) test sounding 5 (with street/aqueduct)
6) sarcophagi



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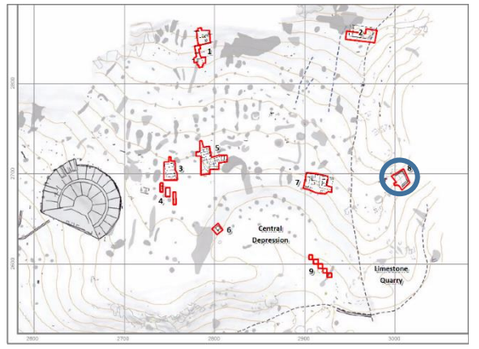
Aerial picture ©Sagalassos Project

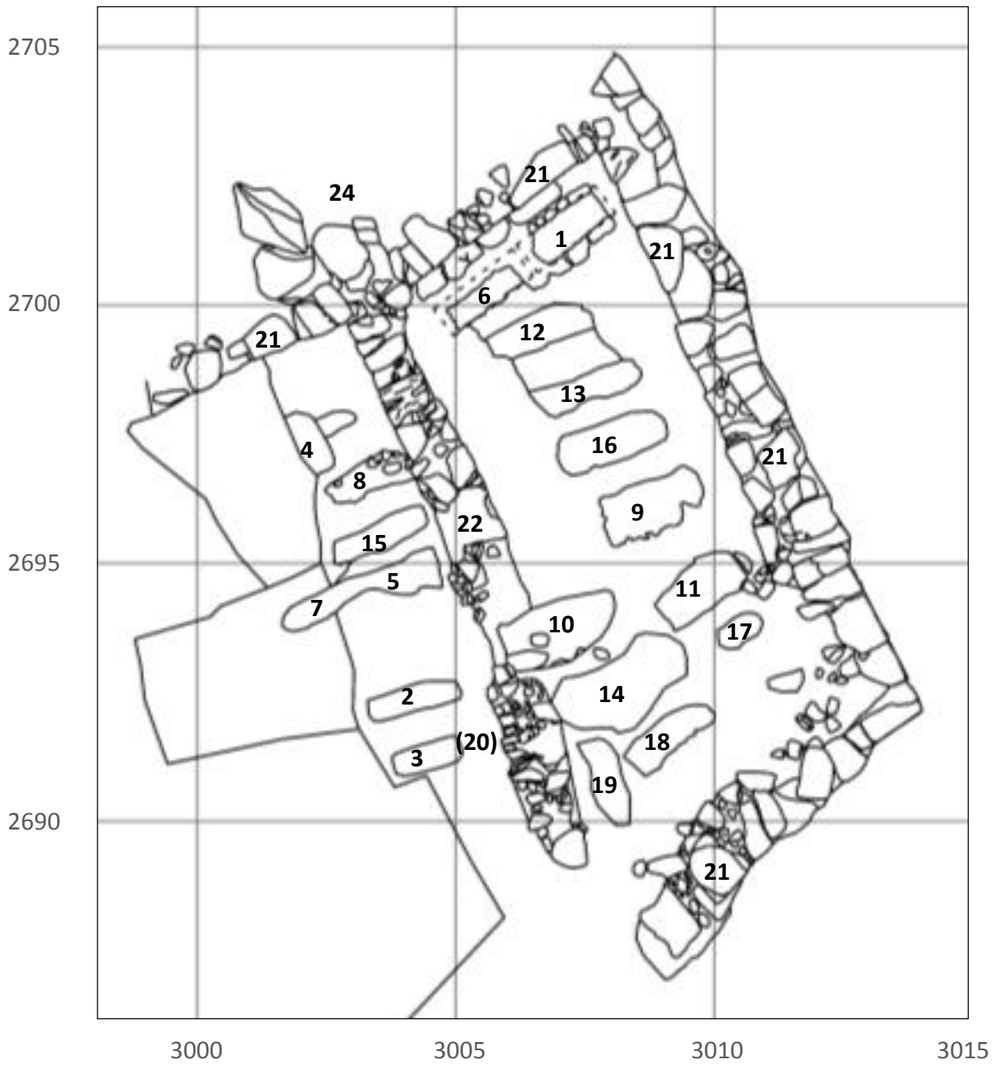
Attachment 7

Site PQ 4 burial compound (excavated in 2012).



Legenda:

1 & 6) inhumations in built tomb
2-5 & 7-20) pit inhumations
21) surrounding compound walls
22) inner dividing wall
23) fill of limestone chips
24) main burial chamber (?)

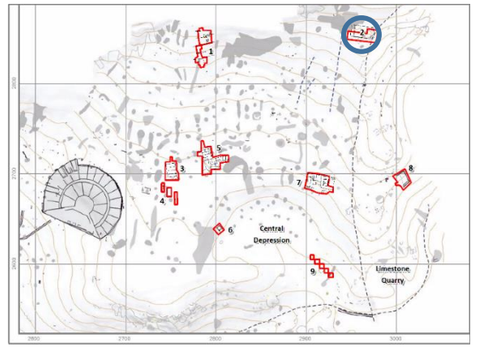


Drawing ©Sagalassos Project.

Aerial picture ©Sagalassos Project

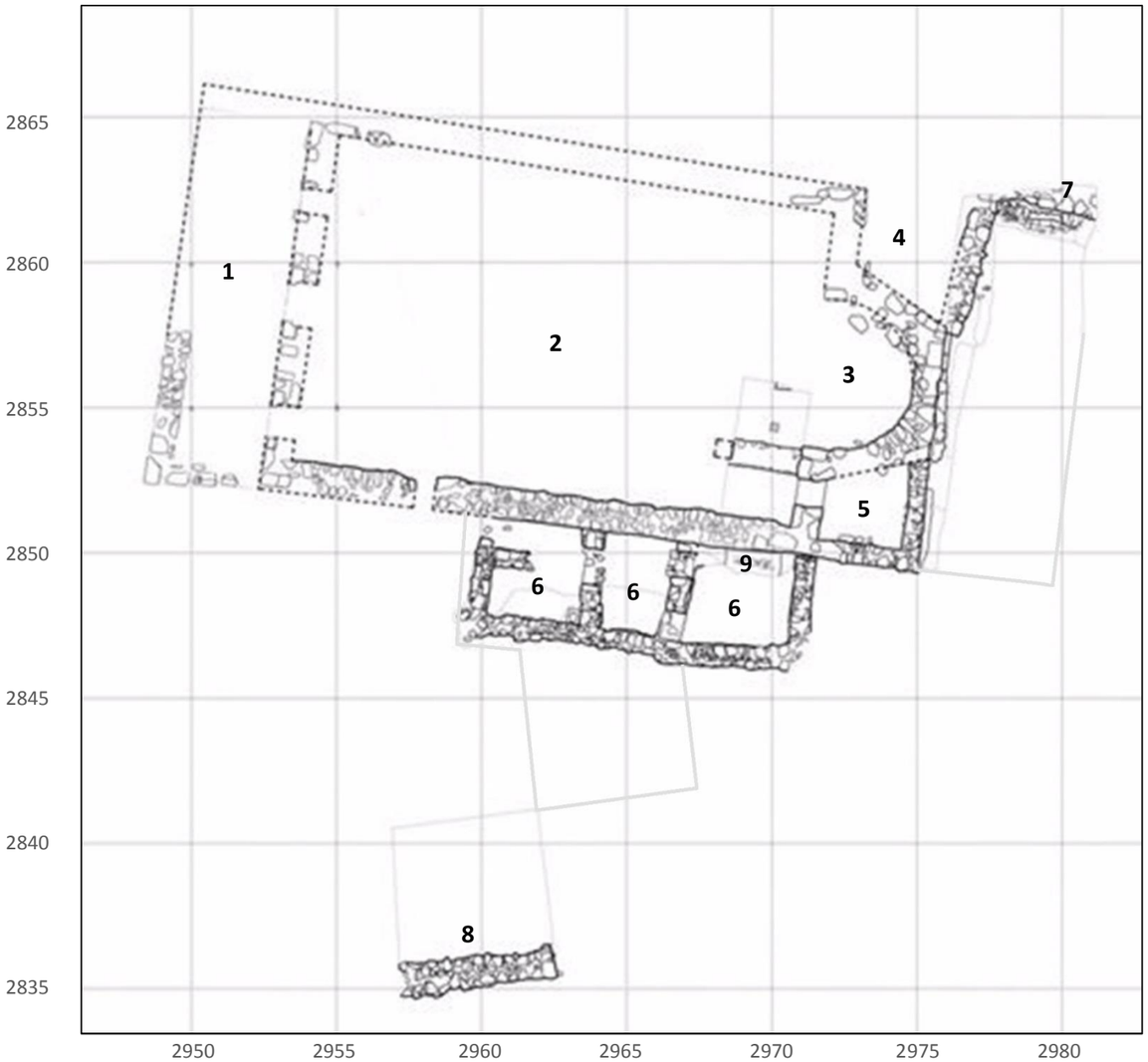
Attachment 8

Site PQ 5 church (excavated in 2005 and 2013).



Legenda:

1) narthex
2) three-naved church
3) apsis
4) prothesis?
5) diakonikon?
6) Spaces south of church
7) terrace wall with water channel in front
8) churchyard wall?
9) inhumation
10) corrals (post-occupational)



Drawing ©Sagalassos Project.

Aerial picture ©Sagalassos Project

Attachment 9

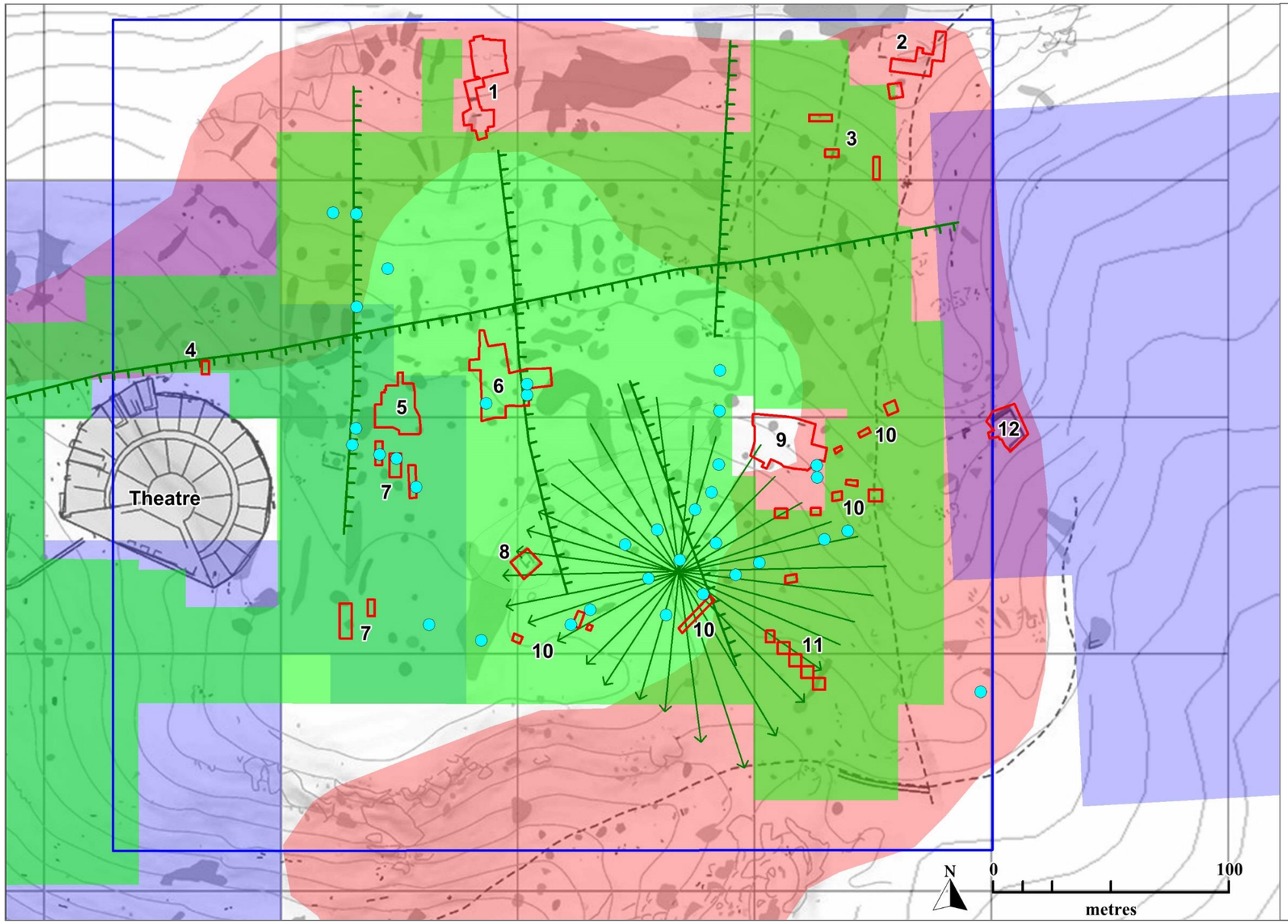
Overview of all research methods applied in the Eastern Suburbium (1989-2013).

Legenda:

- intensive field survey
- geophysical survey
- eastern necropolis
- excavations / test trenches
- orthophotography

1) Site F (1990-1991 and 2011-2012)
2) PQ 5 church (2007 and 2013)
3) Eastern Aqueduct trenches (2007)
4) Theatre Street North trench (1999)
5) PQ 2 schola (2011-2014)
6) PQ coroplast workshops (2004, 2008-2009 and 2011)
7) Site G campus trenches (2004)
8) Site D (1989)
9) PQ east slope workshops / naiskos 1999-2001 and 2012-2013)
10) Test trenches across Central Depression
11) PQ 3 test trenches (2012)
12) PQ 4 burial compound (2012)

- boreholes
- 2D resistivity profiles
- tomography ERT profiles



Responsibles and years of execution:

Intensive field survey:

- urban survey led by Femke Martens (1999, 2001 and 2004)
- suburban survey east and southeast of the Eastern Suburbium led by Hannelore Vanhaverbeke (1999-2004) and Eva Kaptijn (2005-2011)

Geophysical survey

- by Branko Mušič (Ljulbljana University):
  - 2D resistivity profiles (2003) (Similox-Tohon *et al.* 2004)
  - multi-method survey: geoelectric resistivity, magnetic method, ground penetrating radar and electromagnetic induction (2003-2005)
  - GPR (2005 and 2012)
- by Giovanni Leucci (IBAM Lecce) :
  - 3D seismic refraction and reflection tomography (2014)

Eastern Necropolis

- intensive survey and study by Veli Köse (Köse 2005)
- extensive survey by author (2013)

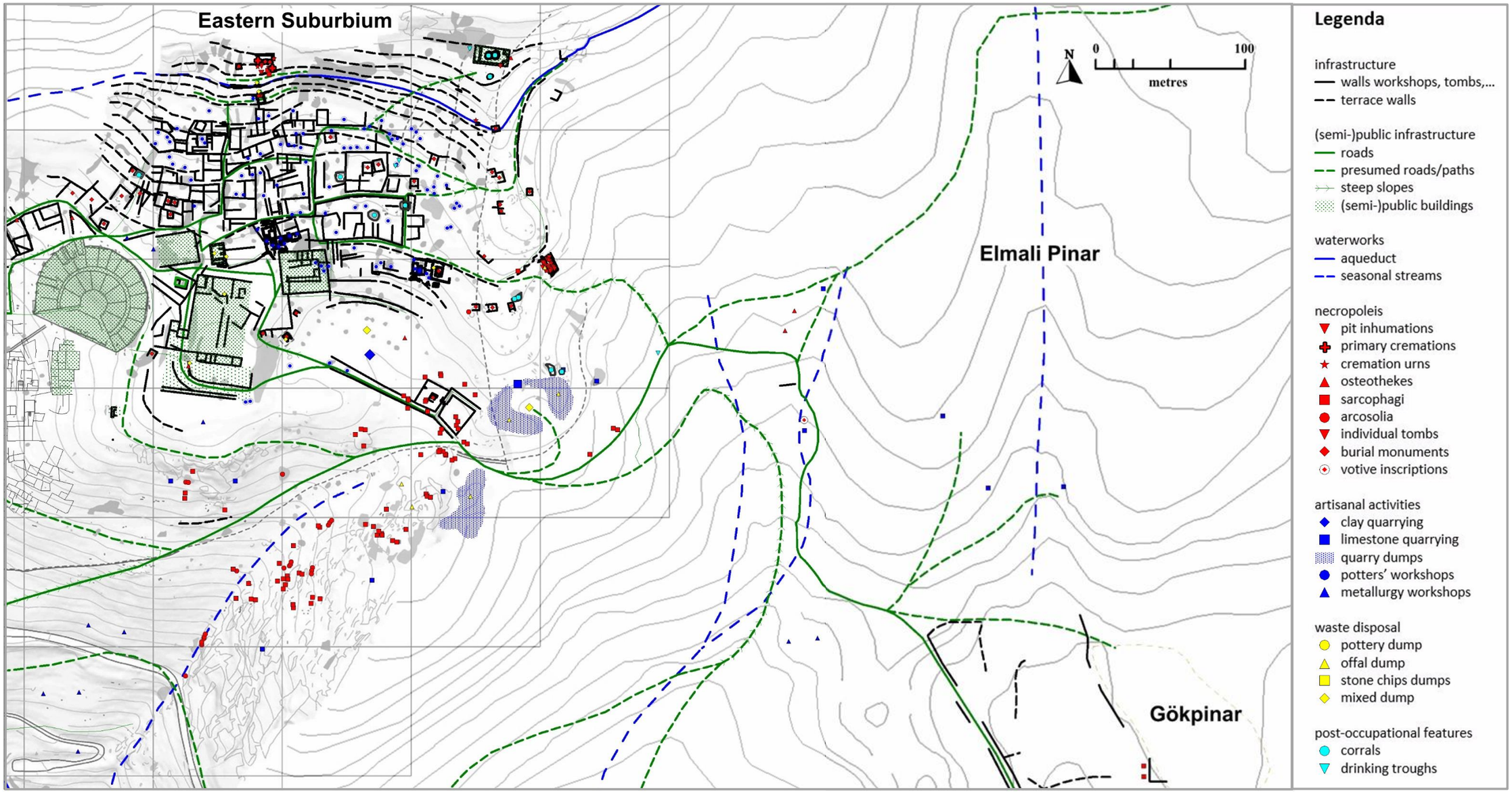
Excavations and test trenches (1989-1991, 1997-2001, 2003-2004, 2008-2014), responsibles cf. respective chapters in this dissertation

Orthophotography by Joeri Theelen (2013)

Geochemical soil survey by Katrijn Dirix (2012-2013) (not indicated)

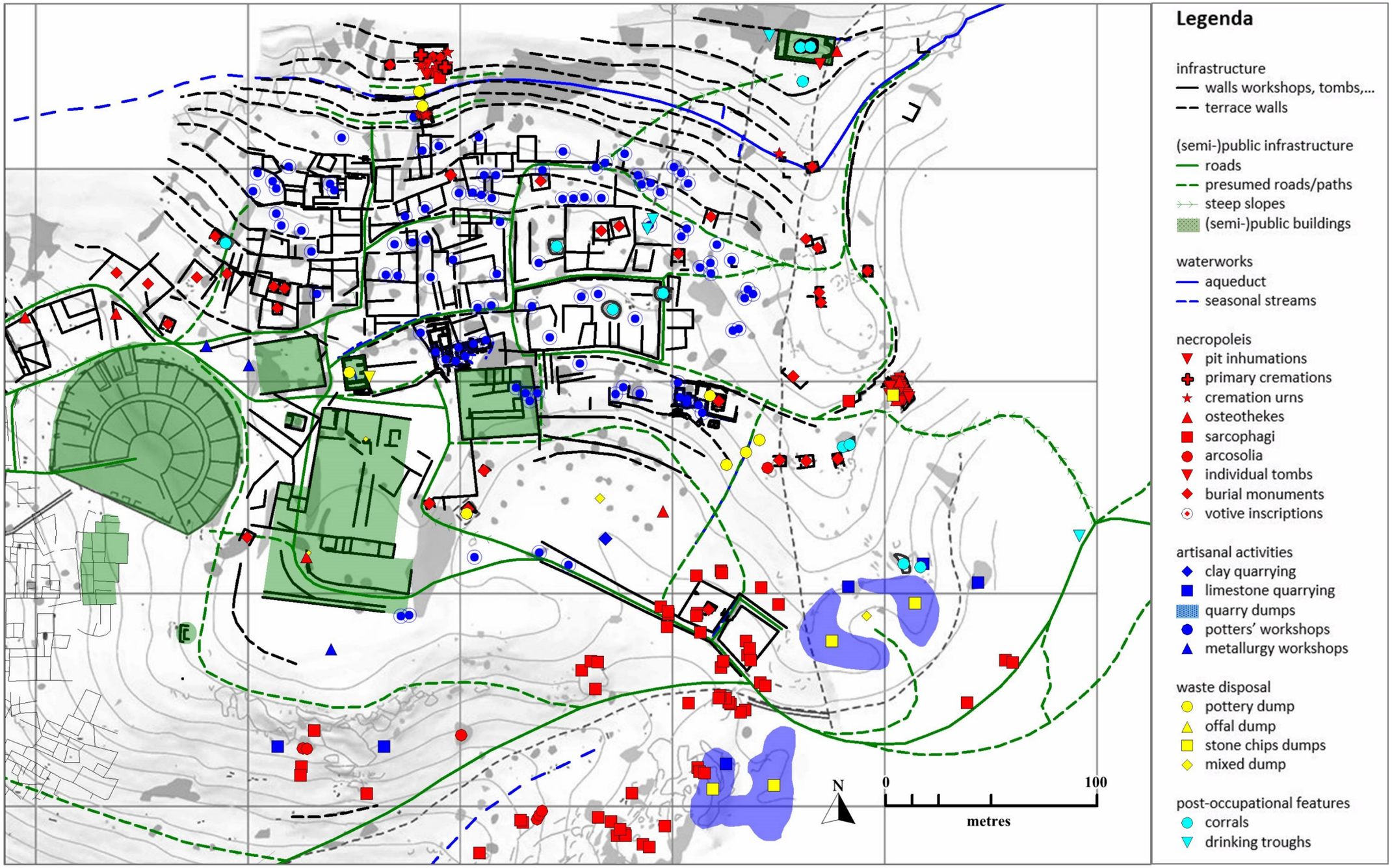
Attachment 10

Overview of all features attested throughout the Eastern Suburbium, Elmalı Pınar and Gökpınar areas (excavations and surveys 1989-2014).



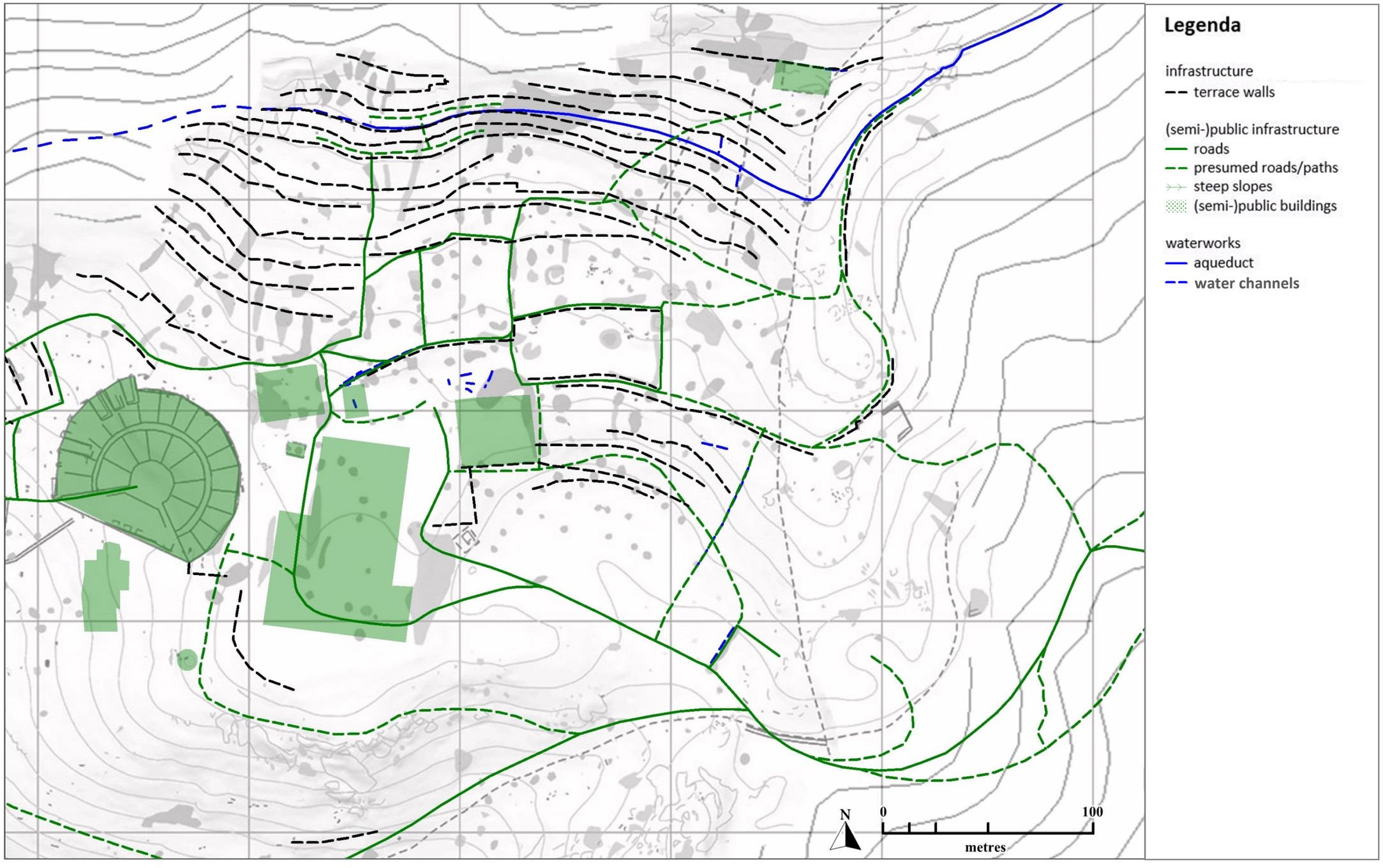
Attachment 11

Overview of all features attested throughout the Eastern Suburbium (excavations and surveys 1987-2014).



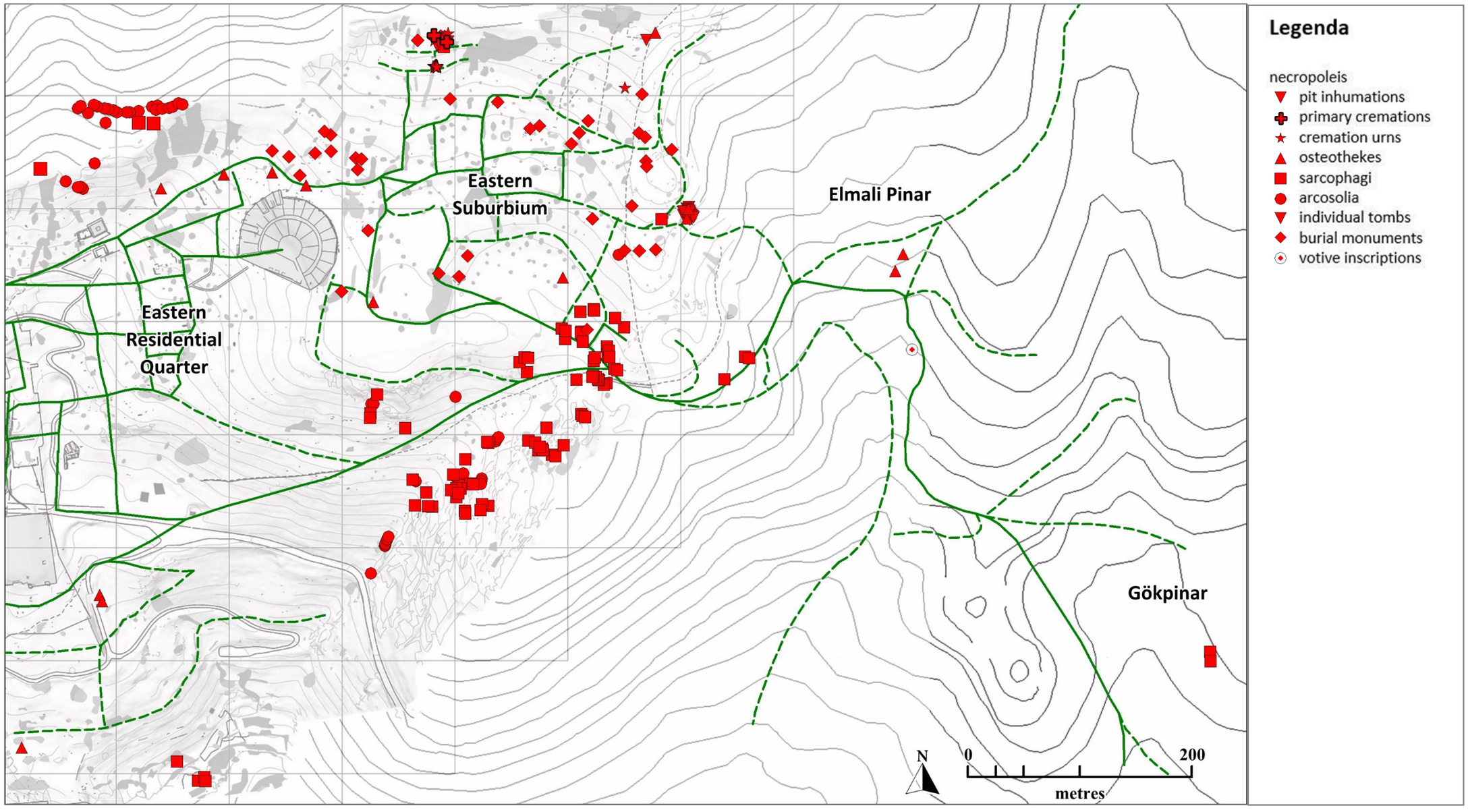
Attachment 12

Overview of all (semi) public infrastructure attested throughout the Eastern Suburbium.



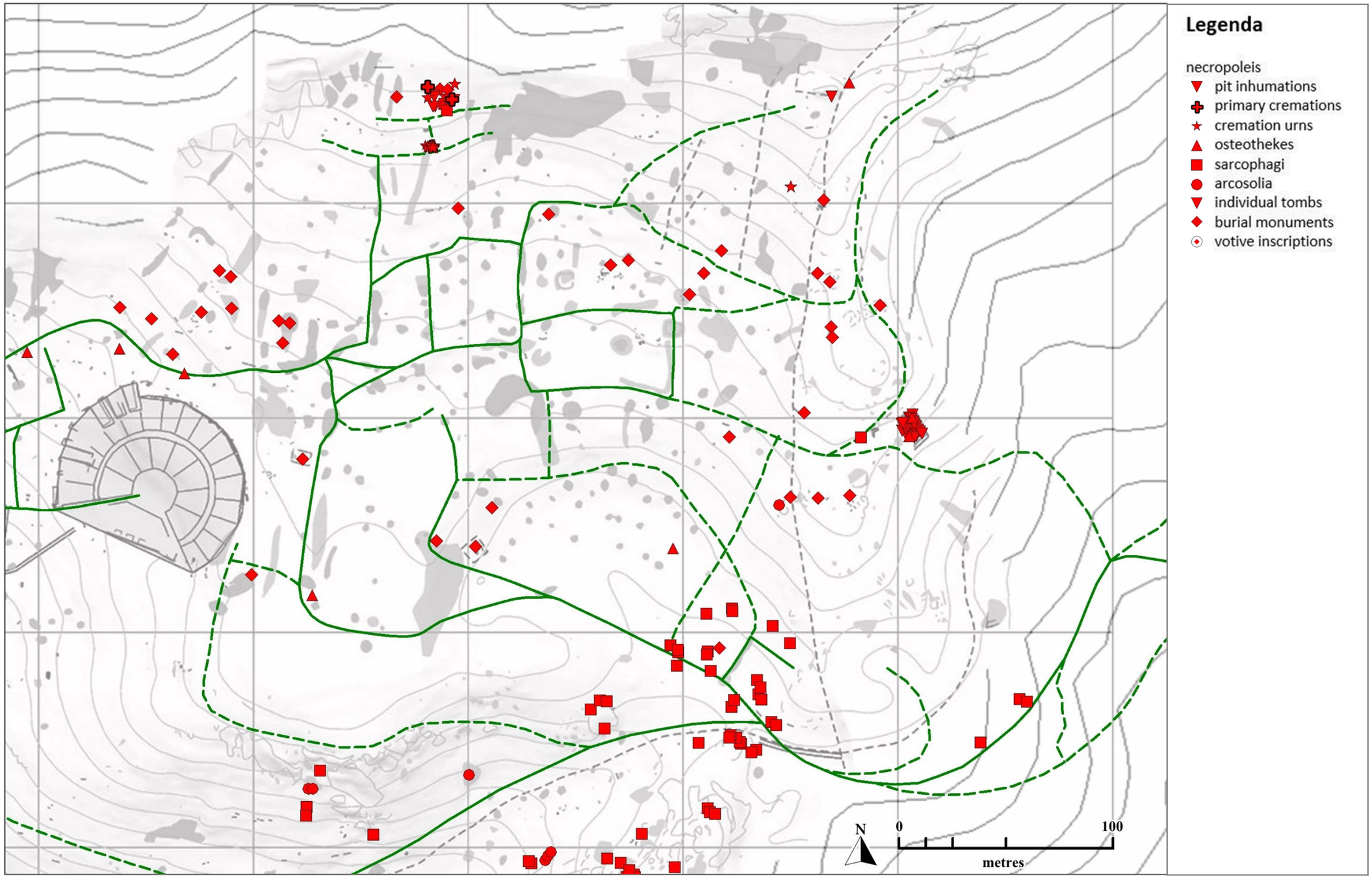
Attachment 13

Overview of all funerary features attested throughout the Eastern Suburbium, Elmalı Pınar and Gökpınar areas.



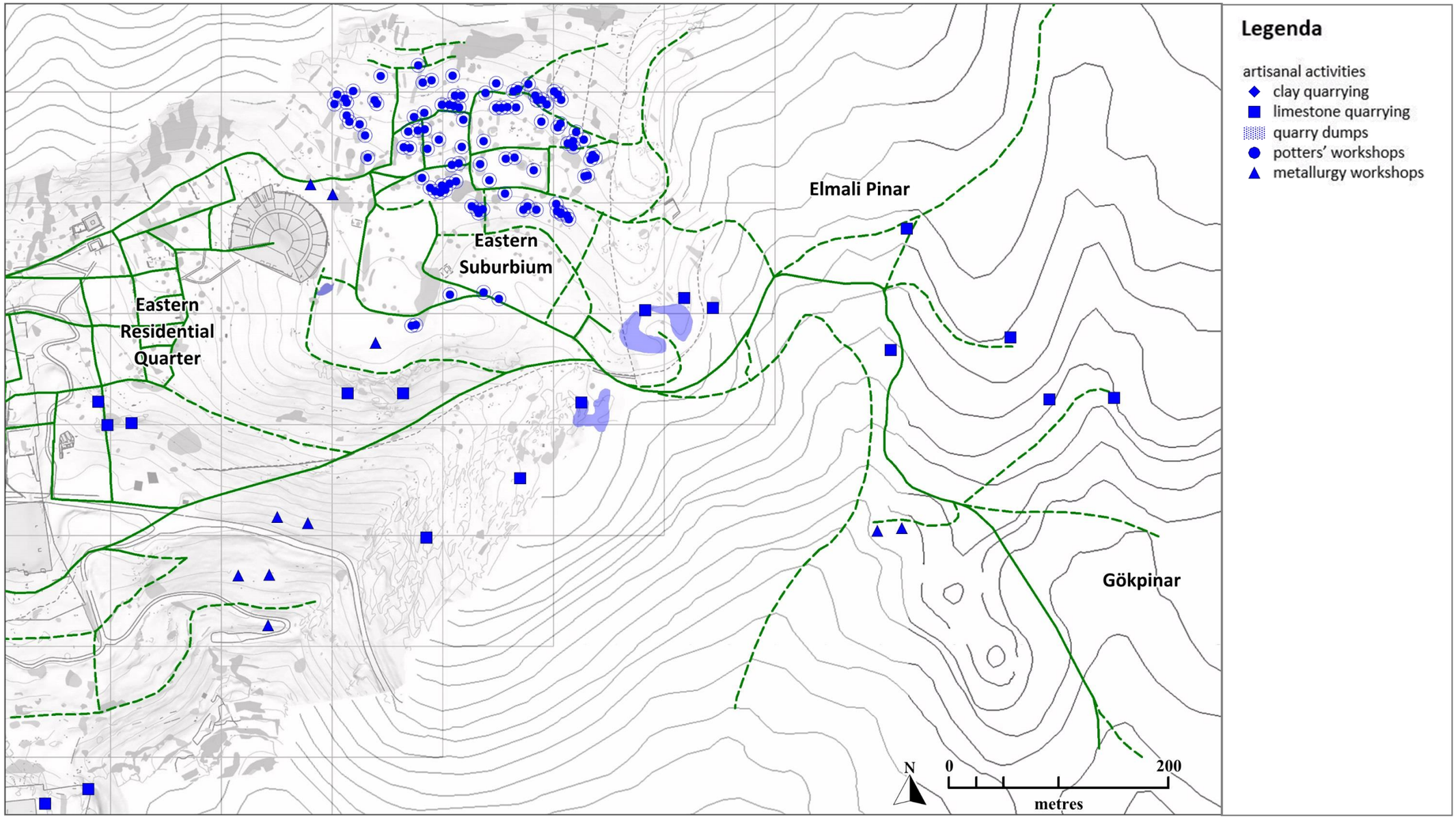
Attachment 14

Overview of all funerary features attested throughout the Eastern Suburbium.



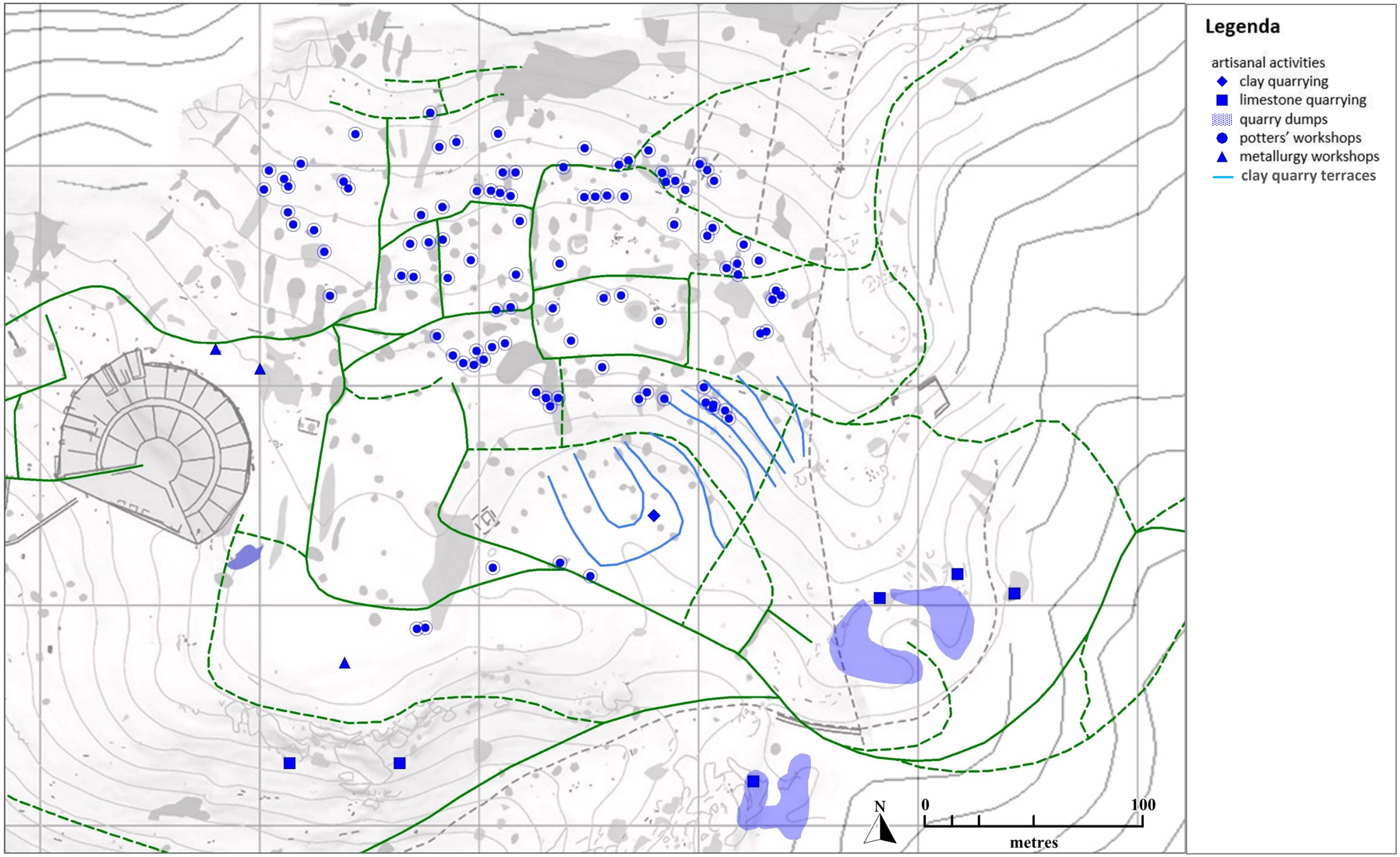
Attachment 15

Overview of all artisanal features attested throughout the Eastern Suburbium, Elmalı Pınar and Gökpınar areas.



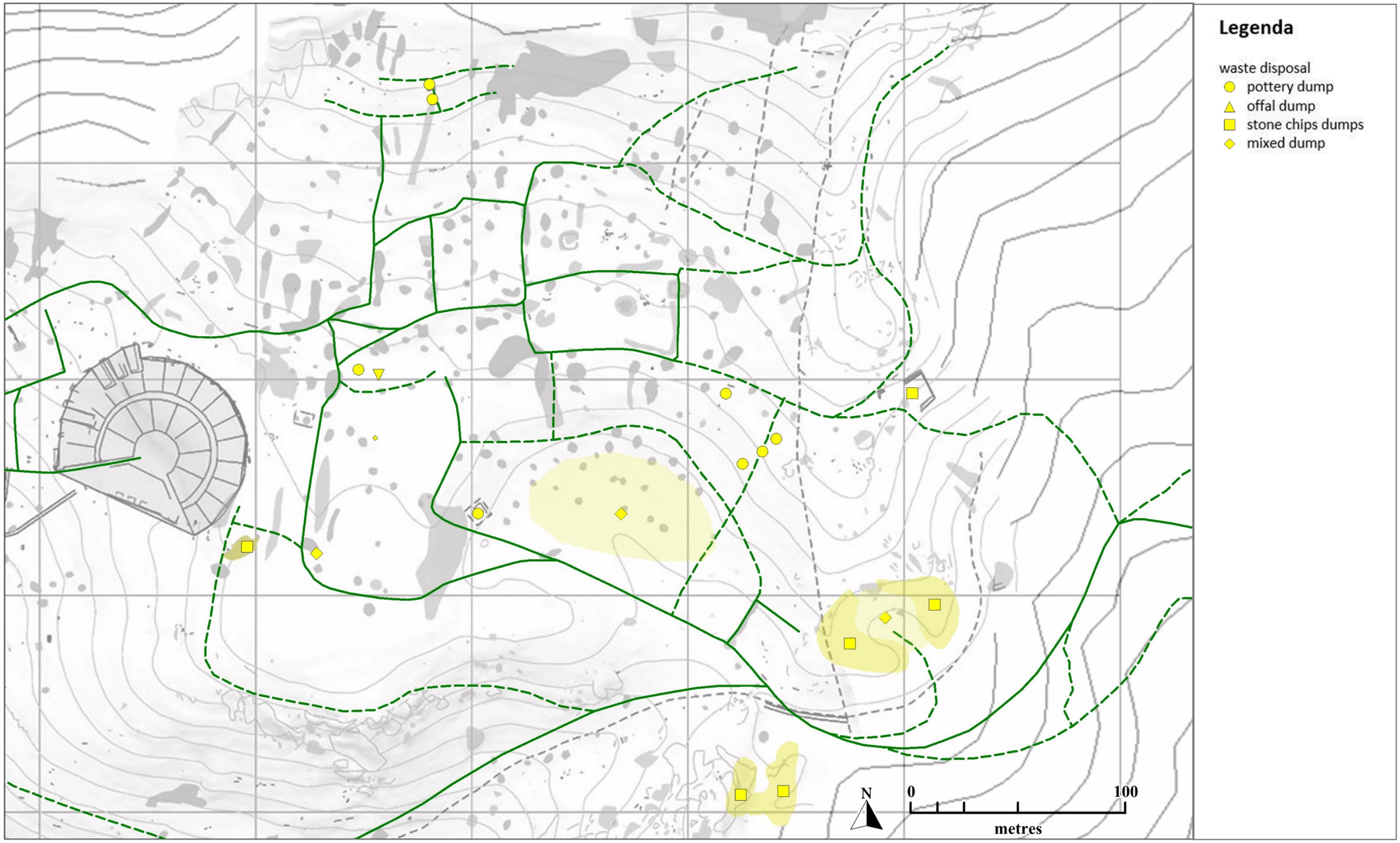
Attachment 16

Overview of all artisanal features attested throughout the Eastern Suburbium.



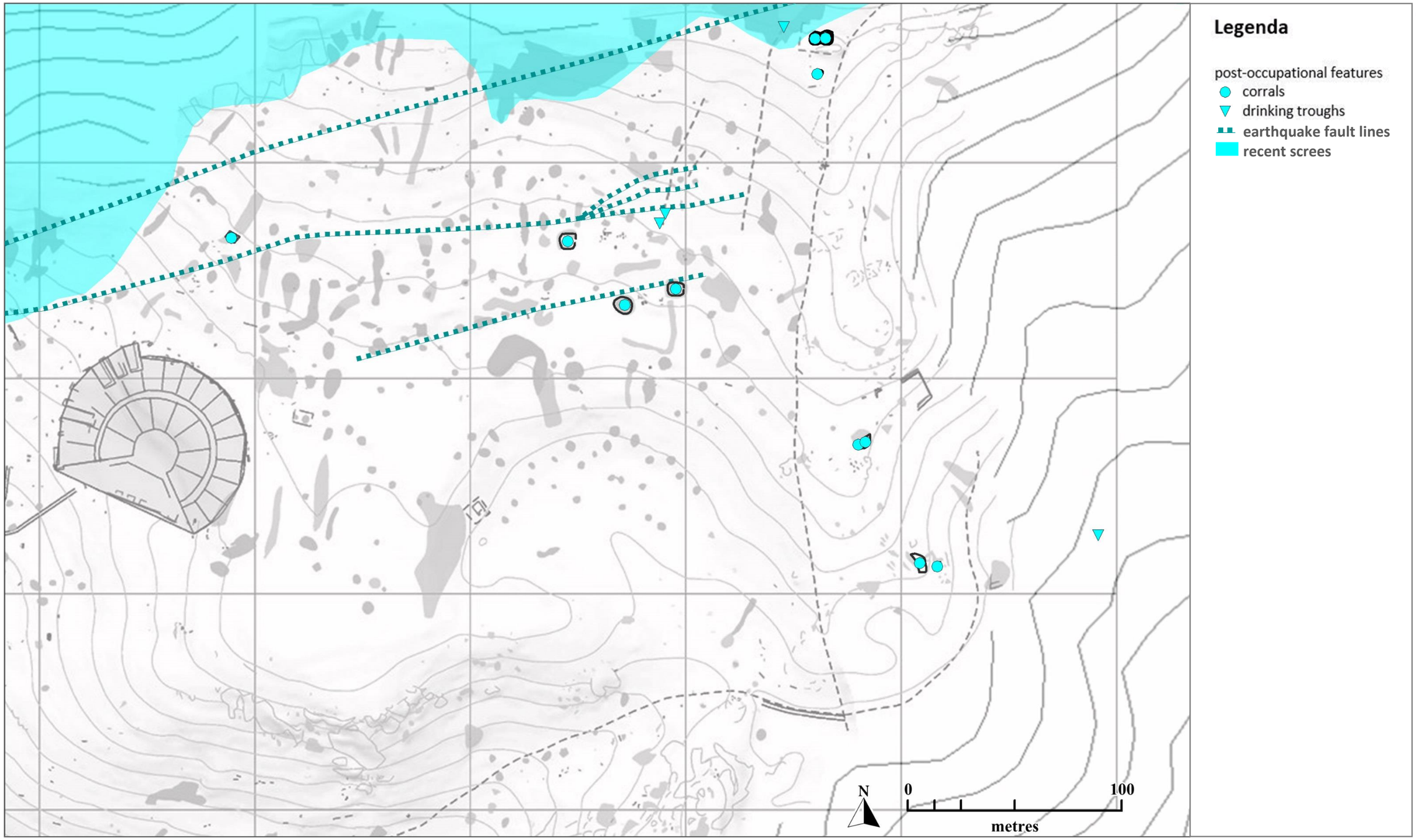
Attachment 17

Overview of all dumps and landfills attested throughout the Eastern Suburbium.



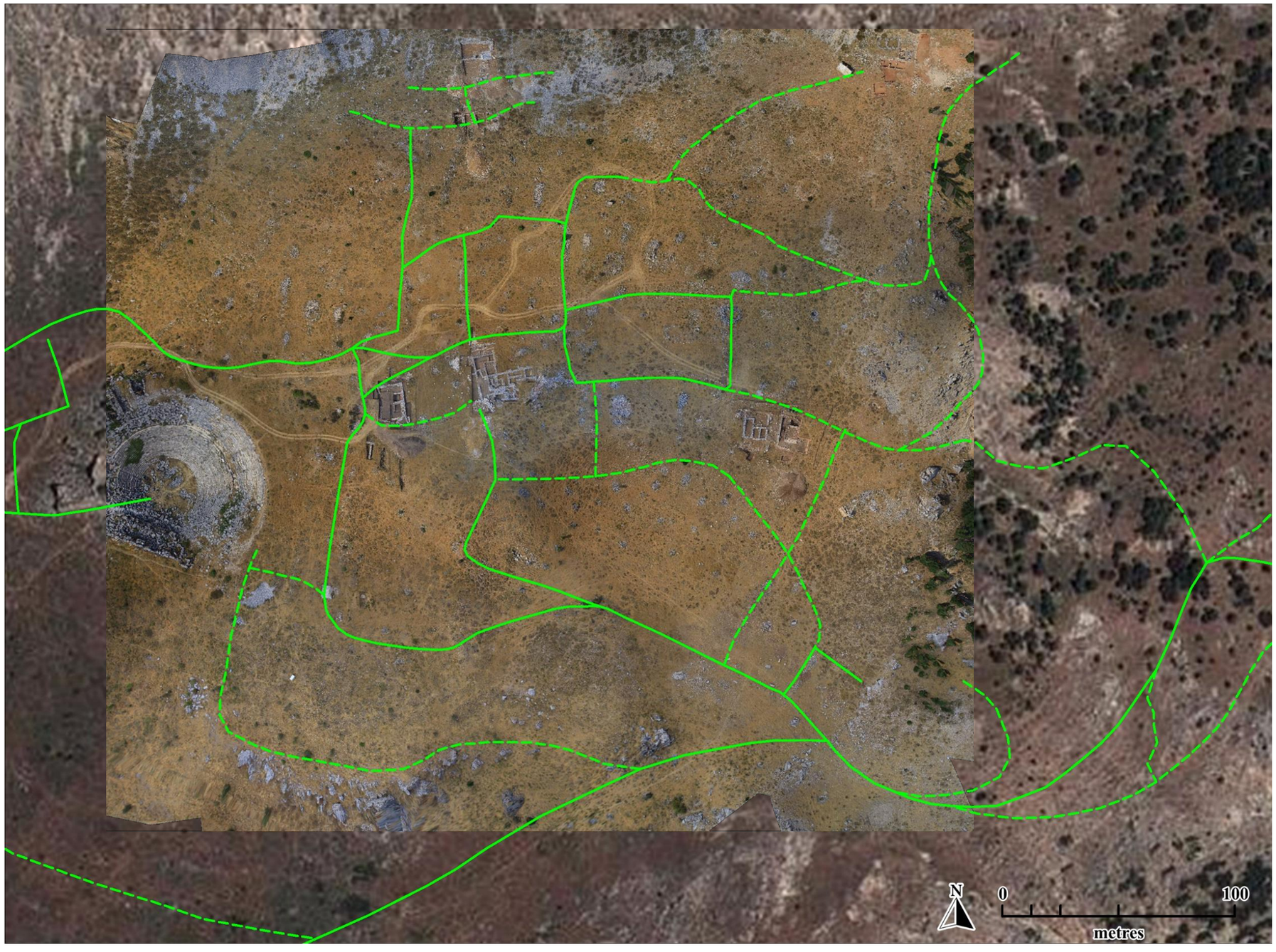
Attachment 18

Overview of all post-occupational features attested throughout the Eastern Suburbium.



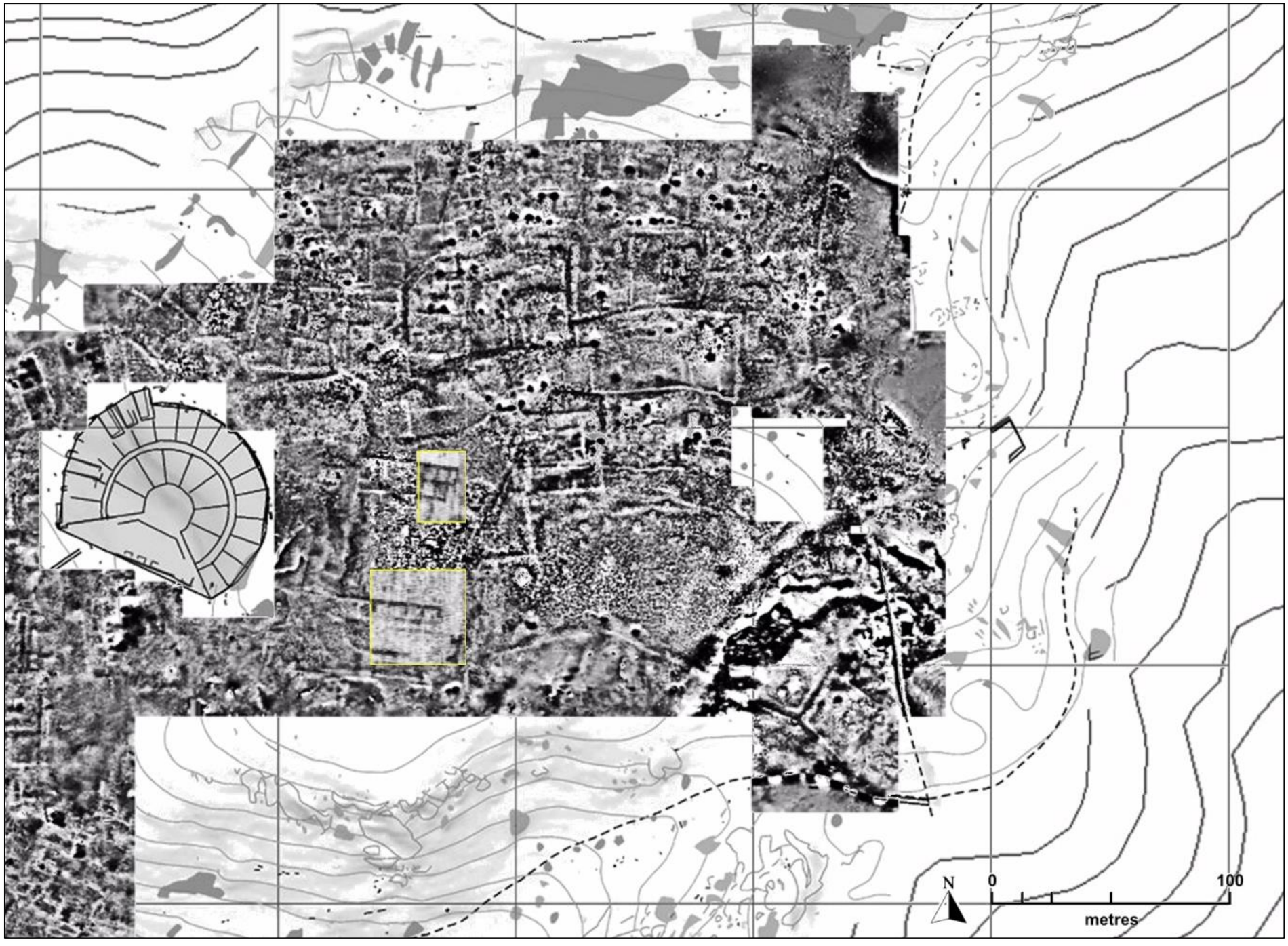
Attachment 19

Georeferenced orthophoto of the Eastern Suburbium (2013), plotted on the Google Maps satellite image.



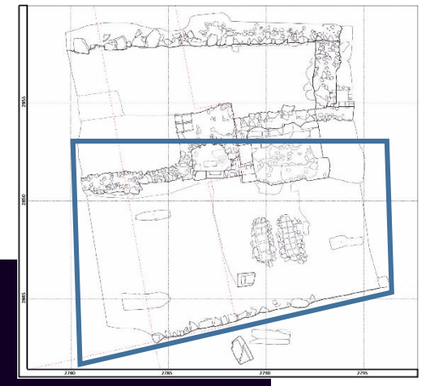
Attachment 20

Geophysical results from the Eastern Suburbium: a selection of ground penetrating radar data (yellow boxes) plotted on the seismometric-magnetometric background.



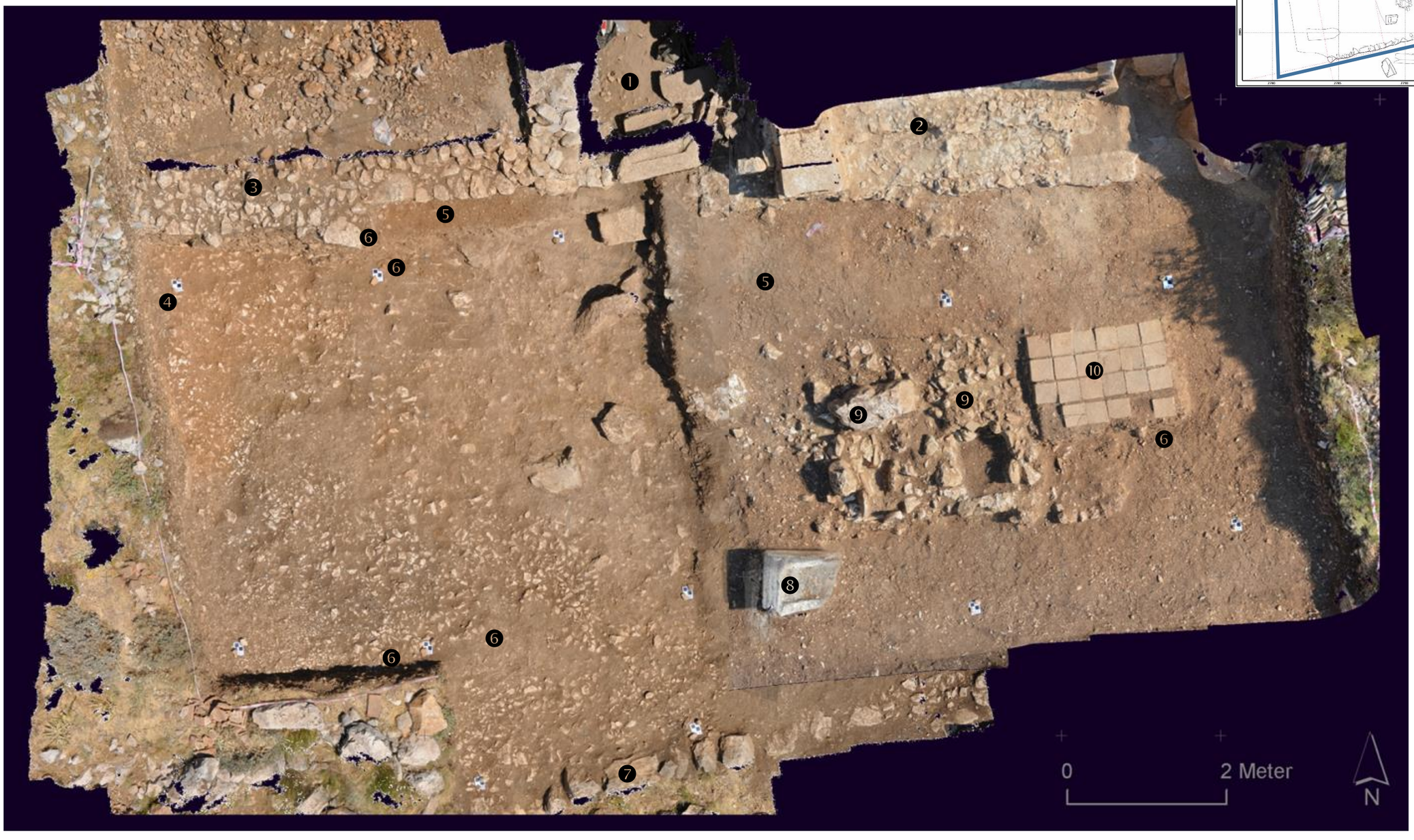
Attachment 21

Georeferenced orthophoto of the southern half of the northern Site F trench (excavated in 1990 and 2012).



Legenda:

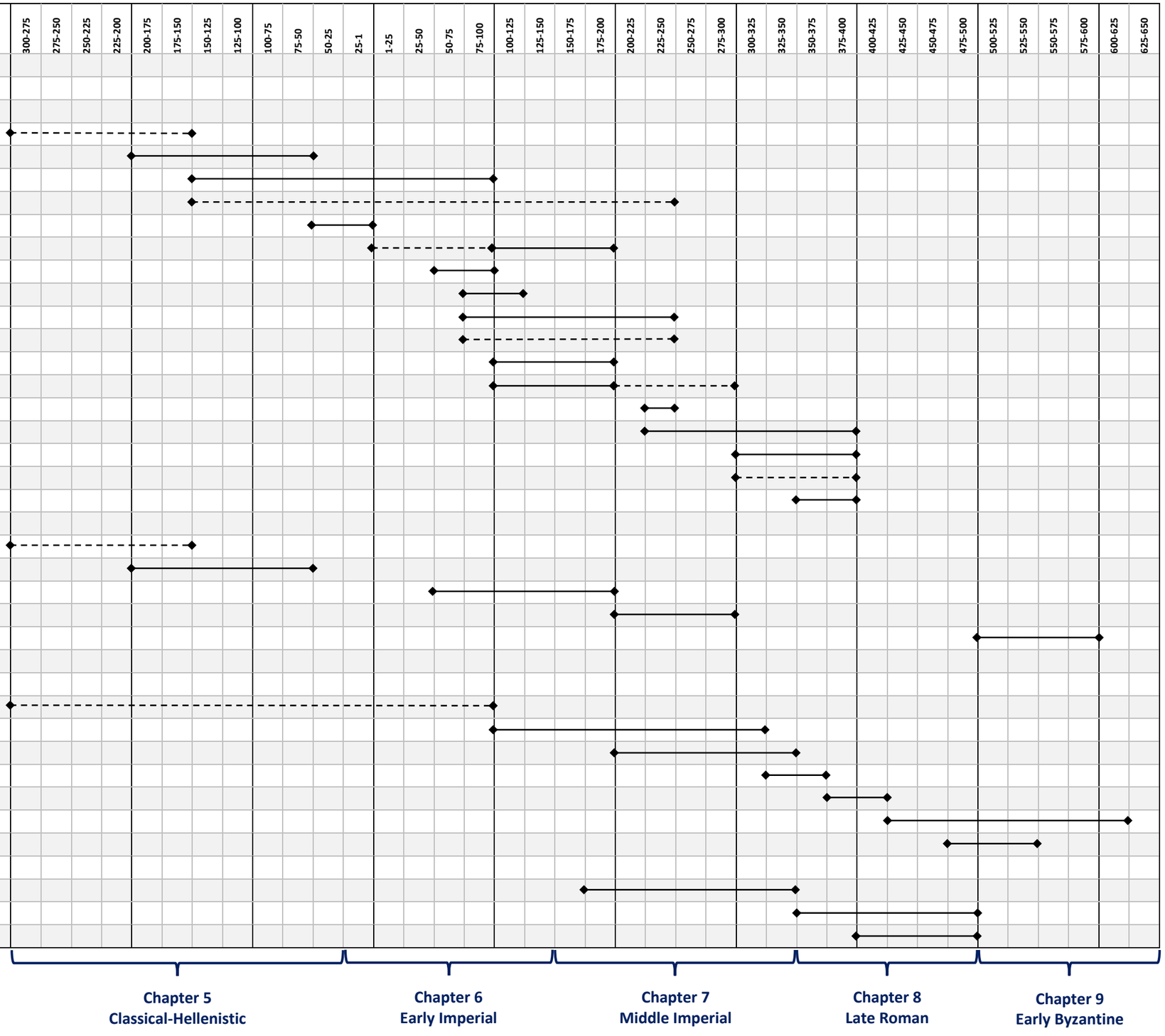
1) vaulted tomb
2) funerary aedicula
3) burial plot wall
4) ceramic cremation urn
5) buried feasting remains
6) pit inhumations
7) terrace wall
8) sarcophagus remains
9) individual tombs
10) primary cremation burial



Attachment 22 a-e

Chronological overview of the lifespan of different activities/infrastructure per site within the Eastern Suburbium of Sagalassos (8 sheets).

Site	*description site*	function/activity
Site F	*upper terraces*	agriculture
Site F	*upper terraces*	cremation urn
Site F	*upper terraces*	Hellenistic monument
Site F	*upper terraces*	sarcophagus
Site F	*upper terraces*	fire pit / cremation
Site F	*upper terraces*	primary cremation
Site F	*upper terraces*	funerary meal 1
Site F	*upper terraces*	funerary meal 2
Site F	*upper terraces*	pit burial L54
Site F	*upper terraces*	pit burials L50/L52
Site F	*upper terraces*	funerary meal 3
Site F	*upper terraces*	vaulted tomb original use
Site F	*upper terraces*	pit burial L56
Site F	*upper terraces*	pit burial L58
Site F	*upper terraces*	vaulted tomb usurpation
Site F	*upper terraces*	individual tomb 1
Site F	*upper terraces*	individual tomb 2
Site F	*lower terraces*	agriculture
Site F	*lower terraces*	cremation urns
Site F	*lower terraces*	workshops
Site F	*lower terraces*	pottery dump 1
Site F	*lower terraces*	pottery dump 2
Site G	*'campus' complex*	agriculture?
Site G	*'campus' complex*	complex
Site G	*'campus' complex*	slaughter dump
Site G	*'campus' complex*	domestic dump 1
Site G	*'campus' complex*	dismantling complex
Site G	*'campus' complex*	Byzantine phase
Site G	*'campus' complex*	domestic dump 2
Site D	*monumental tomb*	tomb
Site D	*monumental tomb*	pottery dump
Site D	*monumental tomb*	pillaging tomb



			300-275	275-250	250-225	225-200	200-175	175-150	150-125	125-100	100-75	75-50	50-25	25-1	1-25	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300	300-325	325-350	350-375	375-400	400-425	425-450	450-475	475-500	500-525	525-550	550-575	575-600	600-625	625-650
PQ 2	*cult building / schola*	building phase 1																																						
PQ 2	*cult building / schola*	monument W of building																																						
PQ 2	*cult building / schola*	building phase 2 (schola)																																						
PQ 2	*cult building / schola*	soup kitchen'																																						
PQ 2	*cult building / schola*	final banquet																																						
PQ 3	*cult building / schola*	post-occup. adaptations																																						
PQ 2	*cult building / schola*	dismantling phase 1																																						
PQ 2	*cult building / schola*	pottery dump																																						
PQ 2	*cult building / schola*	dismantling phase 2																																						
PQ 2	*cult building / schola*	Byzantine phase																																						
PQ coroplast	*pottery workshops*	Early Imperial phase																																						
PQ coroplast	*pottery workshops*	monumental SE building																																						
PQ coroplast	*pottery workshops*	street N of workshop																																						
PQ coroplast	*pottery workshops*	Late Roman phase																																						
PQ coroplast	*pottery workshops*	Byz. coroplast phase																																						
PQ coroplast	*pottery workshops*	convers. to lime burning																																						
PQ coroplast	*pottery workshops*	Byz. agricultural phase																																						
PQ east slope	*pottery workshops*	Early Imperial phase																																						
PQ east slope	*pottery workshops*	continuous use?																																						
PQ east slope	*pottery workshops*	Late Roman phase																																						
PQ east slope	*pottery workshops*	pottery dump																																						
PQ east slope	*naiskos tomb*	workshops																																						
PQ east slope	*naiskos tomb*	naiskos original use																																						
PQ east slope	*naiskos tomb*	dump funerary vessels																																						
PQ east slope	*naiskos tomb*	naiskos reuse																																						
PQ east slope	*naiskos tomb*	pottery dump																																						
PQ east slope	*naiskos tomb*	dismantling naiskos																																						
PQ east slope	*naiskos tomb*	Byzantine walls																																						
PQ 3	*central depression*	clay quarrying																																						
PQ 3	*central depression*	main road																																						
PQ 3	*central depression*	side road / water channel																																						
PQ 3	*central depression*	burial plots																																						
PQ 3	*central depression*	monumental tomb																																						
PQ 3	*central depression*	centr. cepr. Landfill																																						
PQ 3	*central depression*	dump clay pit																																						
PQ 3	*central depression*	funerary meal dump																																						
PQ 3	*central depression*	dismantling phase 1																																						
PQ 3	*central depression*	dismantling phase 2																																						

Chapter 5
Classical-Hellenistic

Chapter 6
Early Imperial

Chapter 7
Middle Imperial

Chapter 8
Late Roman

Chapter 9
Early Byzantine

			300-275	275-250	250-225	225-200	200-175	175-150	150-125	125-100	100-75	75-50	50-25	25-1	1-25	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300	300-325	325-350	350-375	375-400	400-425	425-450	450-475	475-500	500-525	525-550	550-575	575-600	600-625	625-650
PQ 4	*burial compound*	compound phase 1															◆			◆																					
PQ 4	*burial compound*	compound phase 2																		◆					◆																
PQ 4	*burial compound*	compound phase 3																							◆						◆										
PQ 4	*burial compound*	dismantling																												◆				◆						
PQ 4	*burial compound*	stone dump																																◆		◆				
PQ 5	*church*	funerary activities?						◆																										◆						
PQ 5	*church*	church																																◆				◆	◆	
PQ 5	*church*	water infrastructure																																◆				◆	◆	
PQ 5	*church*	pit inhumation																																		◆	◆			
PQ 5	*church*	adjacent rooms																																		◆			◆	◆	
PQ 5	*church*	dump adjacent rooms																																			◆		◆		
PQ 5	*church*	dismantling																																				◆	◆	
LQ	*limestone quarry*	quarrying phase 1									◆			◆				◆																							
LQ	*limestone quarry*	quarrying phase 2																◆				◆																			
LQ	*limestone quarry*	reuse as waste landfill?																					◆																	◆	
EA	*eastern aqueducts*	internal water infrastr.													◆		◆																							◆	
EA	*eastern aqueducts*	lower E aqueduct																◆				◆																	◆	◆	
EA	*eastern aqueducts*	middle E aqueduct																		◆	◆																			
EA	*eastern aqueducts*	upper E aqueduct																			◆																		◆	◆	
EN	*E necropolis crem.*	osteothecs					◆		◆								◆																								
EN	*E necropolis crem.*	arcosolia																◆			◆					◆														
EN	*E necropolis inhum.*	sarcophagi																		◆	◆					◆														
EN	*E necropolis inhum.*	monumental tombs																		◆	◆					◆									◆					
RS	*rock sanctuary*	sanctuary use															◆									◆														
Street netw.	*main road*	main road Elmali Pinar	◆								◆																					◆							◆	
Street netw.	*internal street netw.*	internal street network											◆																			◆							◆	
Coinage	*all sites*	coins Eastern Suburbium					◆							◆	◆				◆	◆						◆					◆				◆	◆		◆			

Chapter 5
Classical-Hellenistic

Chapter 6
Early Imperial

Chapter 7
Middle Imperial

Chapter 8
Late Roman

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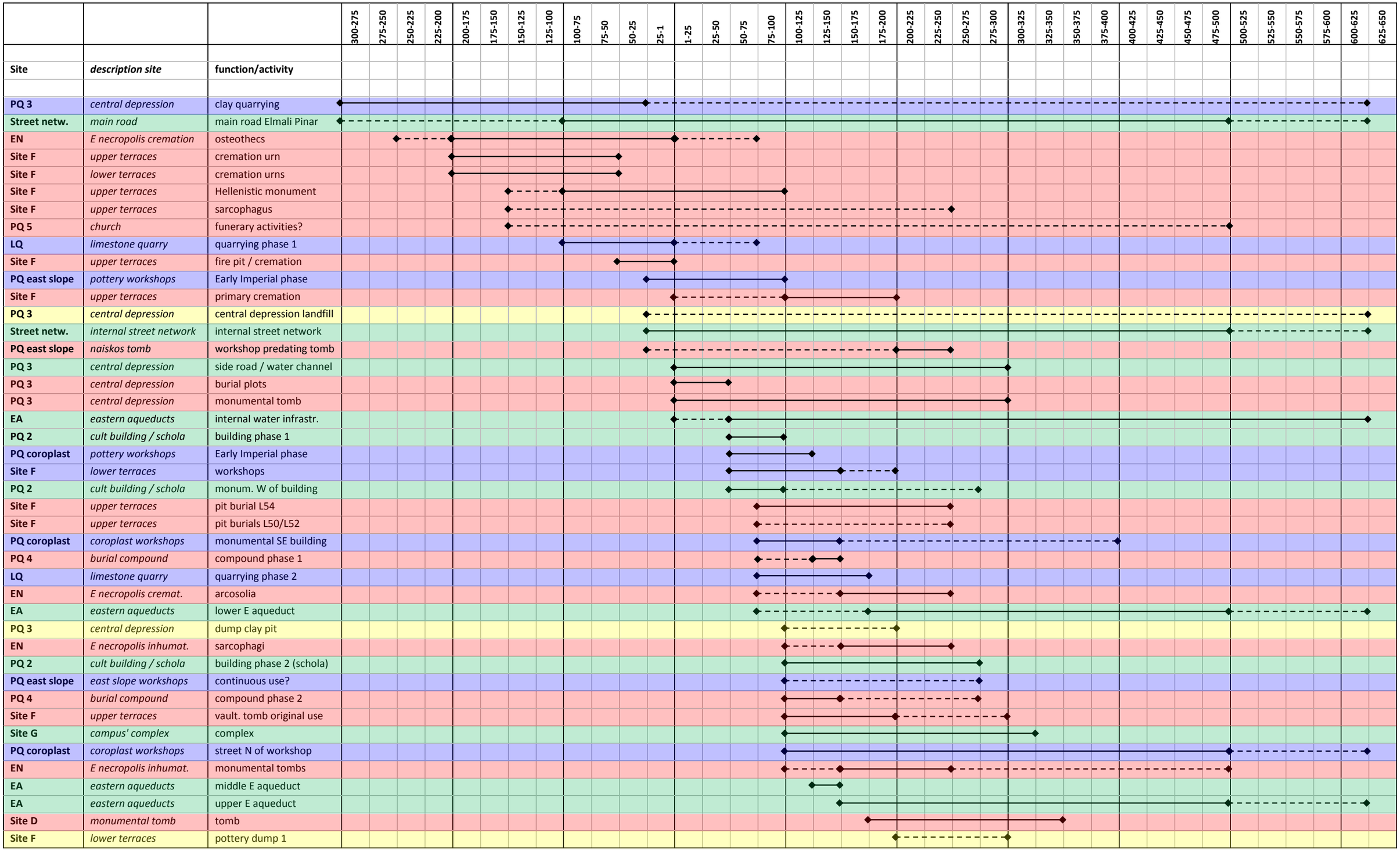
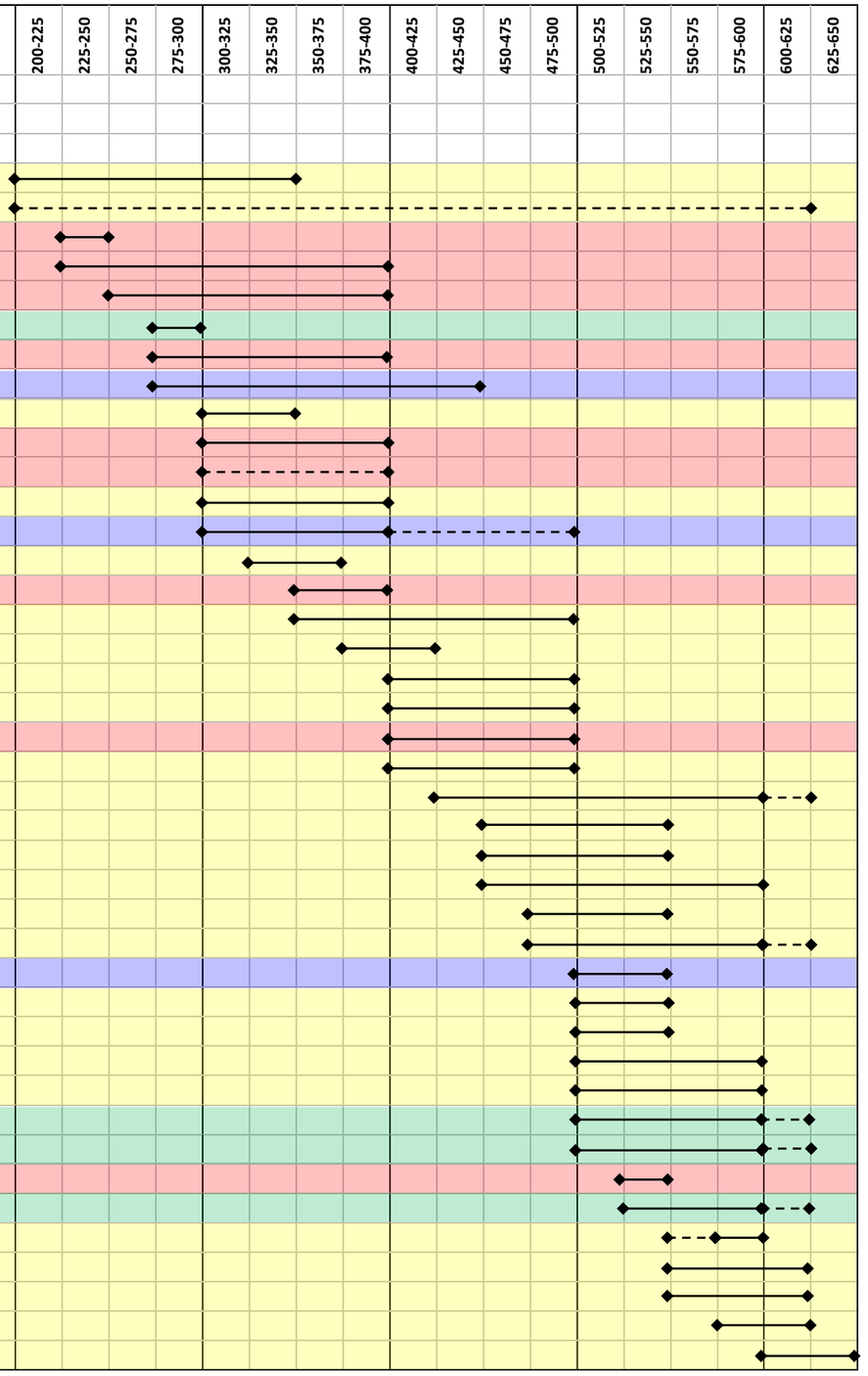
Early Byzantine

Attachment 22 a. Chronological overview of the different activities/infrastructure per site within the Eastern Suburbium of Sagalassos. In the case of infrastructure, not the period of construction is indicated, but the presumed time span the infrastructure was in use. Full lines indicate relative certain dates, the dotted lines a less certain, but implied or derivative reality. The table also gives a justification for the chronological division into six consecutive, distinguishable time periods that is applied throughout Part 2 of this thesis (Chapter 4, representing the period before permanent human occupation, is not included in this scheme). The chosen caesura between time periods are chosen because they are the most represented starting points *or* end points of activities or infrastructural time spans in the Eastern Suburbium, roughly coinciding with 25BC/1 AD, 100 AD, 250 AD and 400 AD.

Site	description site	function/activity
PQ 3	central depression	clay quarrying
Street netw.	main road	main road Elmali Pinar
EN	E necropolis cremation	osteothecs
Site F	upper terraces	cremation urn
Site F	lower terraces	cremation urns
Site F	upper terraces	Hellenistic monument
Site F	upper terraces	sarcophagus
PQ 5	church	funerary activities?
LQ	limestone quarry	quarrying phase 1
Site F	upper terraces	fire pit / cremation
PQ east slope	pottery workshops	Early Imperial phase
Site F	upper terraces	primary cremation
PQ 3	central depression	central depression landfill
Street netw.	internal street network	internal street network
PQ east slope	naiskos tomb	workshop predating tomb
PQ 3	central depression	side road / water channel
PQ 3	central depression	burial plots
PQ 3	central depression	monumental tomb
EA	eastern aqueducts	internal water infrastr.
PQ 2	cult building / schola	building phase 1
PQ coroplast	pottery workshops	Early Imperial phase
Site F	lower terraces	workshops
PQ 2	cult building / schola	monum. W of building
Site F	upper terraces	pit burial L54
Site F	upper terraces	pit burials L50/L52
PQ coroplast	coroplast workshops	monumental SE building
PQ 4	burial compound	compound phase 1
LQ	limestone quarry	quarrying phase 2
EN	E necropolis cremat.	arcosolia
EA	eastern aqueducts	lower E aqueduct
PQ 3	central depression	dump clay pit
EN	E necropolis inhumat.	sarcophagi
PQ 2	cult building / schola	building phase 2 (schola)
PQ east slope	east slope workshops	continuous use?
PQ 4	burial compound	compound phase 2
Site F	upper terraces	vault. tomb original use
Site G	campus' complex	complex
PQ coroplast	coroplast workshops	street N of workshop
EN	E necropolis inhumat.	monumental tombs
EA	eastern aqueducts	middle E aqueduct
EA	eastern aqueducts	upper E aqueduct
Site D	monumental tomb	tomb
Site F	lower terraces	pottery dump 1

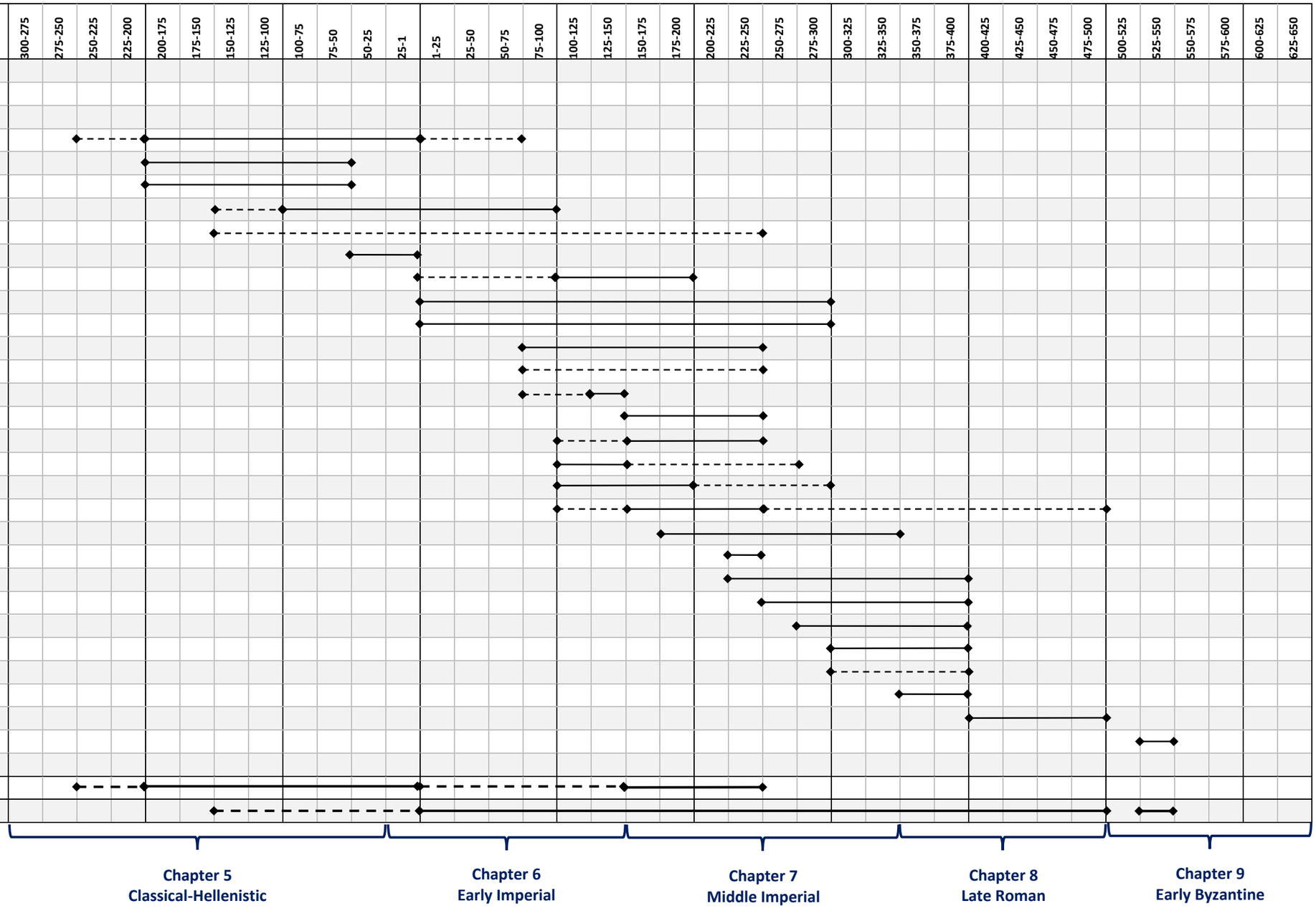


Site	*description site*	function/activity
Site G	*campus' compound*	slaughter dump
LQ	*limestone quarry*	reuse as waste landfill?
Site F	*upper terraces*	pit burial L56
Site F	*upper terraces*	pit burial L58
PQ east slope	*naiskos tomb*	naiskos original use
PQ 3	*central depression*	post-occup. adaptations
PQ 4	*burial compound*	compound phase 3
PQ east slope	*east slope workshops*	Late Roman phase
PQ 2	*cult building / schola*	dismantling phase 1
Site F	*upper terraces*	vaulted tomb usurpat.
Site F	*upper terraces*	individual tomb 1
PQ 3	*central depression*	dismantling phase 1
PQ coroplast	*coroplast workshops*	late Roman phase
Site G	*campus' complex*	domestic dump 1
Site F	*upper terraces*	individual tomb 2
Site D	*monumental tomb*	pottery dump
Site G	*campus' complex*	dismantling complex
Site D	*monumental tomb*	pillaging tomb
PQ east slope	*east slope workshops*	pottery dump
PQ east slope	*naiskos tomb*	naiskos reuse
PQ 4	*burial compound*	dismantling
Site G	*campus' complex*	Byzantine phase
PQ 2	*naiskos tomb*	pottery dump
PQ east slope	*east slope workshops*	pottery dump
PQ 3	*central depression*	dismantling phase 2
Site G	*campus' complex*	domestic dump 2
PQ 2	*cult building / schola*	Byzantine phase
PQ coroplast	*coroplast workshops*	Byzant. (coropl.) phase
PQ 2	*cult building / schola*	dismantling phase 2
PQ 4	*burial compound*	stone dump
Site F	*lower terraces*	pottery dump 2
PQ east slope	*naiskos tomb*	dismantling naiskos
PQ 5	*church*	church
PQ 5	*church*	water infrastructure
PQ 5	*church*	pit inhumation
PQ 5	*church*	adjacent rooms
PQ coroplast	*coroplast workshops*	convers. to lime burning
PQ coroplast	*coroplast workshops*	Byzantine interventions
PQ east slope	*naiskos tomb*	Byzantine walls
PQ 5	*church*	dump adjacent rooms
PQ 5	*church*	dismantling



Attachment 22 b. Simplified chronological overview of the lifespan of activities and infrastructure within the Eastern Suburbium of Sagalassos: artisanal activities in blue; (semi-)public infrastructure in green; funerary activities/infrastructure in red and dumps or post-occupational activities in yellow. Byzantine structural interventions that cannot be linked with a specific function (agricultural/residential?) and that are representing a diverging layout and logic to the Hellenistic/Roman suburban quarter, are here also considered as post-occupational.

Site	*Description site*	function/activity
EN	*E necropolis cremat.*	osteothecs
Site F	*upper terraces*	cremation urn
Site F	*lower terraces*	cremation urns
Site F	*upper terraces*	Hellenistic monument
Site F	*upper terraces*	sarcophagus
Site F	*upper terraces*	fire pit / cremation
Site F	*upper terraces*	primary cremation
PQ 3	*central depression*	burial plots
PQ 3	*central depression*	monumental tomb
Site F	*upper terraces*	pit burial L54
Site F	*upper terraces*	pit burials L50/L52
PQ 4	*burial compound*	compound phase 1
EN	*E necropolis cremat.*	arcosolia
EN	*E necropolis inhumat.*	sarcophagi
PQ 4	*burial compound*	compound phase 2
Site F	*upper terraces*	vaulted tomb orig. use
EN	*E necropolis inhumat.*	monumental tombs
Site D	*monumental tomb*	tomb
Site F	*upper terraces*	pit burial L56
Site F	*upper terraces*	pit burial L58
PQ east slope	*naiskos tomb*	naiskos original use
PQ 4	*burial compound*	compound phase 3
Site F	*upper terraces*	vaulted tomb usurpat.
Site F	*upper terraces*	individual tomb 1
Site F	*upper terraces*	individual tomb 2
PQ east slope	*naiskos tomb*	naiskos reuse
PQ 5	*church*	pit inhumation
CREMATION		
INHUMATION		



Attachment 22 c. Chronological overview of all the (dated) funerary features attested in the Eastern Suburbium of Sagalassos. Full lines indicate relative certain dates, the dotted lines a less certain, but implied or derivative reality. The bottom two rows show the overlap between cremation and inhumation practices. The overlap can only be underestimated, due to the limited amount of data. Inhumation appears to show hiatus from the 6th century AD onwards, but this as well is based on the lack of data from the Eastern Suburbium. Seventh century AD inhumations have been encountered at other necropoleis (e.g. around the Çataloluk Church).

Site	*Description site*	function/activity	300-275	275-250	250-225	225-200	200-175	175-150	150-125	125-100	100-75	75-50	50-25	25-1	1-25	25-50	50-75	75-100	100-125	125-150	150-175	175-200	200-225	225-250	250-275	275-300	300-325	325-350	350-375	375-400	400-425	425-450	450-475	475-500	500-525	525-550	550-575	575-600	600-625	625-650
PQ 3	*Central Depression*	clay quarrying	◆												◆																										
LS	*limestone quarry*	quarrying phase 1									◆				◆			◆																							
PQ east slope	*pottery workshops*	Early Imperial phase											◆						◆																						
PQ east slope	*naiskos tomb*	workshop predating tomb												◆								◆																		
PQ coroplast	*pottery workshops*	Early Imperial phase															◆			◆																				
Site F	*lower terraces*	workshops															◆				◆																		
LS	*limestone quarry*	quarrying phase 2																◆				◆																		
PQ east slope	*east slope workshops*	continuous use?																	◆							◆													
PQ east slope	*east slope workshops*	Late Roman phase																							◆						◆								
PQ coroplast	*coroplast workshops*	late Roman phase																								◆					◆				◆				
PQ coroplast	*coroplast workshops*	Byzantine (coropl.) phase																																	◆		◆		
PQ coroplast	*coroplast workshops*	convers. to lime burning																																		◆		◆	

Chapter 5
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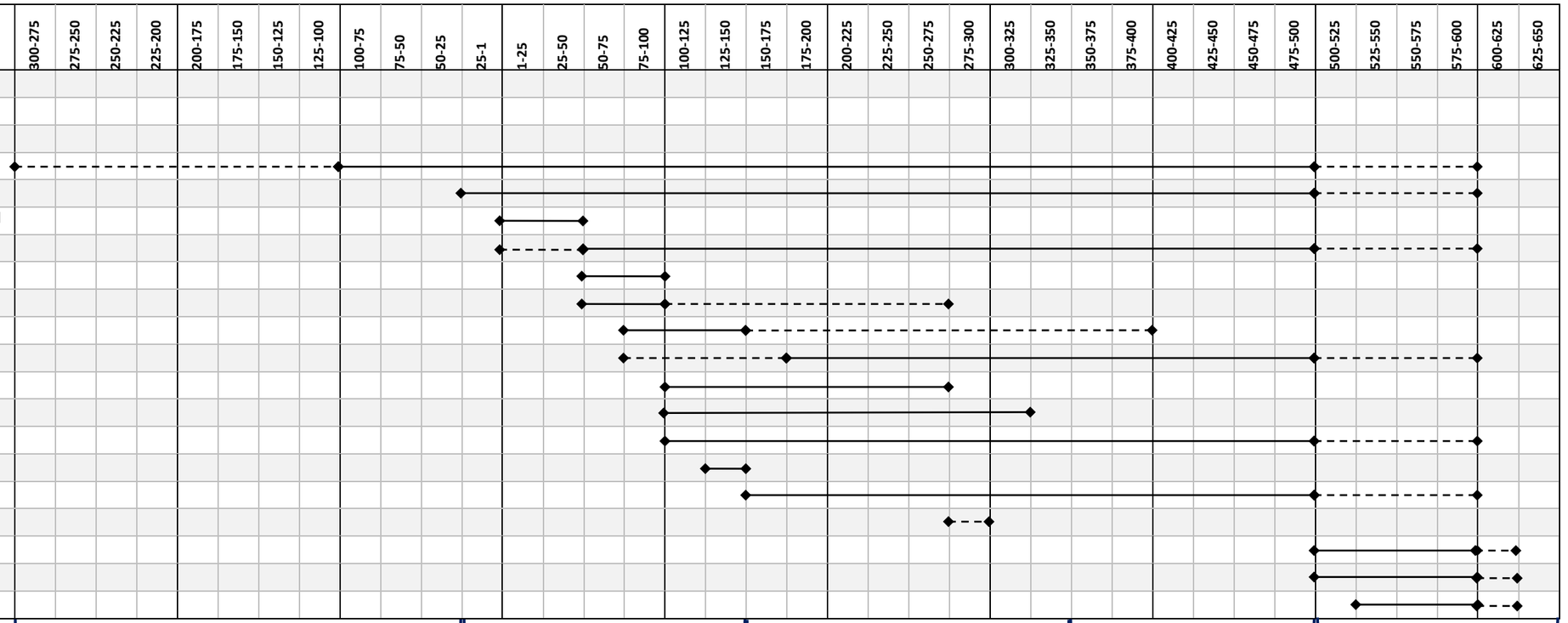
Attachment 22 d. Chronological overview of all the (dated) artisanal activities attested in the Eastern Suburbium of Sagalassos. Full lines indicate relative certain dates, the dotted lines a less certain, but implied or derivative reality.

Site	*Description site*	function/activity
Street network	*main road*	main road Elmali Pinar
Street network	*internal street network*	internal street network
PQ 3	*central depression*	side road / water channel
EA	*eastern aqueducts*	internal water infrastr.
PQ 2	*cult building / schola*	building phase 1
PQ 2	*cult building / schola*	monument W of building
PQ coroplast	*coroplast workshops*	monumental SE building
EA	*eastern aqueducts*	lower E aqueduct
PQ 2	*cult building / schola*	building phase 2 (schola)
Site G	*campus' complex*	complex
PQ coroplast	*coroplast workshops*	street N of workshop
EA	*eastern aqueducts*	middle E aqueduct
EA	*eastern aqueducts*	upper E aqueduct
PQ 3	*central depression*	post-occup. adaptations
PQ 5	*church*	church
PQ 5	*church*	water infrastructure
PQ 5	*church*	adjacent rooms



Chapter 5
Classical-Hellenistic

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Attachment 22 e. Chronological overview of all the (dated) (semi-)public activities and infrastructure attested in the Eastern Suburbium of Sagalassos. Full lines indicate relative certain dates, the dotted lines a less certain, but implied or derivative reality. Byzantine interventions, attested at site G, PQ 2, PQ coroplast workshops and PQ 1 east slope workshops, are not included, because in no instance do they seem to represent architecture that is definable as public or semi-public.